

H3C XE 200/2000 IP PBX G-Remote User Manual

Hangzhou H3C Technologies Co., Ltd. http://www.h3c.com

Manual Version: T2-08014N-20070520-C-3.01

Copyright © 2006-2007, Hangzhou H3C Technologies Co., Ltd.

All Rights Reserved

No part of this manual may be reproduced or transmitted in any form or by any means without prior written consent of Hangzhou H3C Technologies Co., Ltd.

Trademarks

H3C, Aolynk, Aolynk, H3Care, TOP G, TOP G, IRF, NetPilot, Neocean, NeoVTL, SecPro, SecPoint, SecEngine, SecPath, Comware, Secware, Storware, NQA, VVG, V2G, VnG, PSPT, XGbus, N-Bus, TiGem, InnoVision and HUASAN are trademarks of Hangzhou H3C Technologies Co., Ltd.

All other trademarks that may be mentioned in this manual are the property of their respective owners.

Notice

The information in this document is subject to change without notice. Every effort has been made in the preparation of this document to ensure accuracy of the contents, but all statements, information, and recommendations in this document do not constitute the warranty of any kind, express or implied.

To obtain the latest information, please access:

http://www. h3c.com

Technical Support

customer_service@h3c.com

http://www. h3c.com

About This Manual

Related Documentation

In addition to this manual, each H3C XE 200/2000 IP PBX documentation set includes the following:

Manual	Description
H3C XE 200/2000 IP PBX Operation Manual	It gives the introduction to the G-remote user interfaces and the operation of the H3C XE 200/2000 IP PBX.
H3C XE 200/2000 IP PBX Command Manual	It introduces all commands available in the XE 200/2000, as well as the syntax, command line, parameters, views, command usage and examples.
H3C XE 200/2000 IP PBX Installation Manual	It provides information for the hardware features, installation, configuration, maintenance and troubleshooting involved in the XE series.

Organization

H3C XE 200/2000 IP PBX G-Remote User Manual is organized as follows:

Chapter	Contents	
1 GUI Overview	Profiles the GUI function and GUI operating system.	
2 GUI Server Configuration	Elaborates on the components of the GUI Client interfaces, login of the GUI Server and the operation of the GUI Client. Presents the procedure of the XE 200/2000 IP PBX configuration through the GUI Client interfaces. The chapter contains two sections: XE 200/2000 configuration overview and XE 200/2000 configuration.,	
3 GUI Client Configuration		
4 XE IP PBX Configuration		
5 Call Service Configuration		

Chapter	Contents	
6 System Management	Presents the procedure of the XE 200/2000 IP PBX management. The chapter contains seven sections: GUI Client management, device status query, Telnet login, saving the configuration, backup/recovery of the configuration, statistics query, and multi-device management.	

Conventions

The manual uses the following conventions:

I. Command conventions

Convention	Description	
Boldface	The keywords of a command line are in Boldface .	
italic	Command arguments are in italic.	
[] Items (keywords or arguments) in square brackets optional.		
{ x y }	Alternative items are grouped in braces and separated by vertical bars. One is selected.	
[x y]	Optional alternative items are grouped in square brackets and separated by vertical bars. One or none is selected.	
{ x y } *	Alternative items are grouped in braces and separated by vertical bars. A minimum of one or a maximum of all can be selected.	
[x y]*	Optional alternative items are grouped in square brackets and separated by vertical bars. Many or none can be selected.	
&<1-n>	The argument(s) before the ampersand (&) sign can be entered 1 to n times.	
# A line starting with the # sign is comments.		

II. GUI conventions

Convention	Description	
Boldface	Window names, button names, field names, and menu items are in Boldface. For example, the New User window appears; click OK .	
>	Multi-level menus are separated by angle brackets. For example, File > Create > Folder .	

Convention	Description	
<>	Button names are inside angle brackets. For example, click <ok>.</ok>	
Window names, menu items, data table and fie are inside square brackets. For example, pop up User] window.		
/	Multi-level menus are separated by forward slashes. For example, [File/Create/Folder].	

III. Symbols

Convention	Description	
A Warning	Means reader be extremely careful. Improper operation may cause bodily injury.	
A Caution	Means reader be careful. Improper operation may cause data loss or damage to equipment.	
☐ Note	Means a complementary description.	

Table of Contents

Chapter 1 GUI Overview	1-1
Chapter 2 GUI Server Configuration	2-1
2.1 GUI Server Configuration Prerequisites	2-1
2.2 GUI Server Configuration Procedure	2-1
2.2.1 Enabling the GUI Server	2-1
2.2.2 Displaying the User Information List	2-1
2.2.3 Clearing the User Information List	2-2
2.2.4 Web Service	2-2
2.2.5 Configuring Self-service	2-3
2.2.6 Configuring Operation Rights of Normal Administrators	2-4
2.2.7 GUI Server Configuration Example	2-7
Chapter 3 GUI Client Configuration	3-1
3.1 Installing GUI Client	
3.1.1 GUI Client Installation Procedure	3-1
3.2 Introduction to Interfaces	3-4
3.2.1 Tool Bar	3-4
3.2.2 Device Management Window	3-4
3.2.3 Output Window	3-7
3.3 Login Management	3-7
3.3.1 Login	3-7
3.3.2 Close Connection	3-10
3.4 Operations on the GUI Client	3-10
3.4.1 Configuring Device Parameters	3-10
3.4.2 Restoring the Default Values	3-13
3.4.3 Enabling/Disabling a Voice Service or a Feature	3-14
Chapter 4 XE IP PBX Configuration	4-1
4.1 XE IP PBX Overview	4-1
4.2 XE IP PBX Configuration	4-1
4.2.1 XE IP PBX Configuration Overview	4-1
4.2.2 Configuring Interfaces	4-4
4.2.3 Configuring the PS	4-6
4.2.4 Configuring Media Resources	4-10
4.2.5 Configuring the MS	4-11
4.2.6 Configuring the LS	4-13
4.2.7 Configuring the VoIP Network Dialup Scheme	4-25
4.2.8 Configuring Backup and Load Sharing	4-30
4.2.9 Configuring CPU Overload Protection	4-34

	4.2.10 Configuring NAT/FW Tunnel Traversal	4-35
	4.2.11 Configuring Voice RADIUS Accounting	4-37
Cha	pter 5 Call Service Configuration	5-1
•	5.1 Call Service Overview	
	5.2 Subscriber Management Service	
	5.2.1 Introduction to Subscriber Management Service	
	5.2.2 Configuring the Subscriber Status	
	5.3 Emergency Call Service	
	5.3.1 Introduction to Emergency Call Service	
	5.3.2 Configuring Emergency Call Numbers	
	5.4 Call Limit Group Service	
	5.4.1 Introduction to Call Limit Group Service	
	5.4.2 Configuring Call Limit Groups	
	5.4.3 Configuring Call Limit Group Service	
	5.5 Outgoing Call Authority Control Service	
	5.5.1 Introduction to Outgoing Call Authority Control Service	
	5.5.2 Configuring Subscriber Roles	
	5.5.3 Configuring Outgoing Call Authority Control Service	
	5.6 Abbreviated Dialing Service	
	5.6.1 Introduction to Abbreviated Dialing Service	
	5.6.2 Configuring Abbreviated Dialing Service	
	5.7 Do-Not-Disturb Service	
	5.7.1 Introduction to Do-Not-Disturb Service	5-11
	5.7.2 Configuring Do-Not-Disturb Service	5-12
	5.8 Calling Line Identification Control Services	
	5.8.1 Introduction to Calling Line Identification Control Services	
	5.8.2 Configuring Calling Line Identification Control Services	
	5.9 Password Call Service	5-14
	5.9.1 Introduction to Password Call Service	5-14
	5.9.2 Configuring Password Call Service	5-14
	5.10 Call Forwarding Services	5-15
	5.10.1 Introduction to Call Forwarding Services	5-15
	5.10.2 Configuring CFU Service	5-16
	5.10.3 Configuring CFC Service	5-17
	5.10.4 Configuring CFT Service	5-18
	5.10.5 Configuring CFO Service	5-19
	5.10.6 Configuring CFB Service	5-21
	5.10.7 Configuring CFNR Service	5-22
	5.11 Third Party Call Termination Service	5-23
	5.11.1 Introduction to Third Party Call Termination Service	5-23
	5.11.2 Using Third Party Call Termination Service	5-23
	5 12 ONLY Sonico	5.24

5.12.1 Introduction to ONLY Service	5-24
5.12.2 Configuring ONLY Service	5-24
5.13 Time Limit Call Service	5-25
5.13.1 Introduction to Time Limit Call Service	5-25
5.13.2 Configuring Time Limit Call Service	5-26
5.14 Third Party Call Control Service	5-26
5.14.1 Introduction to Third Party Call Control Service	5-26
5.14.2 Configuring Third Party Call Control Service	5-27
5.15 Callback-On–Busy Service	5-27
5.15.1 Introduction to Callback-On–Busy Service	5-27
5.15.2 Configuring Callback-On-Busy	5-28
5.16 Call Pickup Service	5-28
5.16.1 Introduction to Call Pickup Service	5-28
5.16.2 Configuring Call Pickup Service	5-29
5.17 Call Intervention Service	5-29
5.17.1 Introduction to Call Intervention Service	5-29
5.17.2 Configuring Call Intervention Service	5-30
5.18 Dialing Test Service	5-30
5.18.1 Introduction to Dialing Test Service	5-30
5.18.2 Configuring Dialing Test Service	5-30
5.19 Time Announcement Service	5-31
5.19.1 Introduction to Time Announcement Service	5-31
5.19.2 Configuring Time Announcement Service	5-31
5.20 MyRing Service	5-31
5.20.1 Introduction to MyRing Service	5-31
5.20.2 Configuring MyRing Service	5-32
5.21 CPCP Service	5-33
5.21.1 Introduction to CPCP Service	5-33
5.21.2 Configuring CPCP Service	5-34
5.22 Automatic Operator Service	5-34
5.22.1 Introduction to Automatic Operator Service	5-34
5.22.2 Configuring Automatic Operator Service	5-35
5.23 Group Notification Service	5-35
5.23.1 Introduction to Group Notification Service	5-35
5.23.2 Configuring Group Notification Service	5-37
5.24 Call Transfer Service	
5.24.1 Introduction to Call Transfer Service	5-39
5.24.2 Configuring Call Transfer Service	5-40
5.25 Number Query Service	5-40
5.25.1 Introduction to Number Query Service	5-40
5.25.2 Configuring Number Query Service	5-41
5.26 Alarm Clock Service	5-41

5.26.1 Introduction to Alarm Clock Service	5-41
5.26.2 Configuring Alarm Clock Service	5-42
Chapter 6 System Management	6-1
6.1 User Management	6-1
6.1.1 User Account Levels	6-1
6.1.2 Naming Rule and Rights for Users	6-2
6.1.3 Account Management by the Super Administrator	6-2
6.1.4 Changing Your Password	6-4
6.1.5 Managing Operation Rights of Normal Administrators	6-4
6.1.6 Configuring Self-service	6-8
6.2 Device Status Query	6-9
6.3 Telnet Login	6-11
6.4 Saving the Configuration	6-11
6.5 Backup/Recovery of the Configuration File	6-11
6.6 Statistics Query	6-12
6.7 Multi-Device Management	6-13
6.7.1 Managing Multiple XE IP PBXs	6-13
6.7.2 Device Management Under the LS	6-14

Chapter 1 GUI Overview

H3C XE 200/2000 IP PBX (hereinafter referred to as the XE IP PBX) provides graphical user interfaces (GUIs) to enable easy configurations. GUI is classified as GUI server and GUI client. The GUI server runs inside the XE IP PBX, and the GUI client runs on a PC with Microsoft Windows operating systems.

GUI provides you with a friendly operating interface and enables you to apply the functions and services correctly and quickly, thereby facilitating voice network management.

Chapter 2 GUI Server Configuration

2.1 GUI Server Configuration Prerequisites

On the XE IP PBX, the interface connected to Ethernet is configured with a correct IP address and subnet mask, and is reachable to the PC running the GUI client software.

2.2 GUI Server Configuration Procedure

2.2.1 Enabling the GUI Server

Configure to enable the GUI server as follows:

Table 2-1 GUI server configuration

Operation	Command	Remarks
Enter system view	system-view	_
Enter GUI server configuration view	gui	_
Configure the interface number and port number for the GUI server	gui-config interface interface-type slot-number [port port]	Required. The port number is optional. The GUI client communicates with the GUI server through the port. The port number ranges from 1 to 65535 and defaults to 10,999.
Enable the GUI server	start	Required

Use the **stop** command to disable the GUI server.

2.2.2 Displaying the User Information List

Run the **display gui-user** command in any view to display the administrator information list.

Table 2-2 Display the user information list

Operation	Command	Remarks
Display the user information list	display gui-user { all online }	Required. Keyword all is to display information of all administrators and online is to display information of current login administrators.

2.2.3 Clearing the User Information List

Clear the user information list as follows:

Table 2-3 Clear the user information list

Operation	Command	Remarks
Enter system view	system-view	_
Enter GUI server configuration view	gui	_
Clear the user information list	reset-ual	Required



- This command restores the user information list to the initial state, that is, only the default account is contained.
- If the GUI server has been started, you need to shut it down first.
- Use this command carefully to avoid the loss of important information.

2.2.4 Web Service

The XE IP PBX provides the Web service, helping you to access the XE IP PBX through the Web browser and download the GUI client software.

After you enable the Web service, you can visit http://xxx.xxx.xxx/filename to view the corresponding file under the directory flash:/web on the XE IP PBX. By default, you will directly access the index.html file under this directory when you visit http://xxx.xxx.xxx.xxx. That is, visiting http://xxx.xxx.xxx is the same as visiting http://xxx.xxx.xxx.xxx/index.html.

By default, there are ten files in the flash:/web directory on the XE IP PBX: index.html, zh_down.html, en_down.html, g-remote_ch.exe, g-remote_en.exe, banner.jpg, zh_down.png, en.png, zh.png, and zh_describe.png.

A Note:

- The above mentioned xxx.xxx.xxx represents the IP address of the XE IP PBX, and filename refers to the name of the file saved under the flash:/web directory on the XE IP PBX.
- After you modify or delete a file under the flash:/web directory, restart the Web server so that your change can take effect. However, adding a file does not need the restart-up.
- Be careful to rename or delete files under the flash:/web directory. Improper operations may cause failure of downloading GUI client software.
- Click [XE G-Remote English Version] on the [XE G-Remote Download] Web page to download the GUI client software.

Enable or disable the Web service as follows:

Table 2-4 Enable/disable the Web service

Operation	Command	Remarks
Enter system view	system-view	_
Enter GUI server configuration view	gui	_
Enable/disable the Web service	web { start stop }	Required

2.2.5 Configuring Self-service

With the self-service, a user can log on to the GUI server with the normal user account and perform the following operations on one's own account:

- Querying account configurations.
- Configuring services.
- Changing the password.

A normal user can configure/query the following services on the GUI server:

- Abbreviated dialing. Refer to <u>Abbreviated Dialing Service</u> for configuration details.
- Call forwarding services. Refer to <u>Call Forwarding Services</u> for configuration details.
- MyRing service. Refer to <u>MyRing Service</u> for configuration details.
- Do-not-disturb service. Refer to <u>Do-Not-Disturb Service</u> for configuration details.
- Alarm clock service. Refer to Alarm Clock Service for configuration details.

Before a user logs onto the GUI server, the GUI server and self-service must be enabled.

A Note:

About details about user classification, refer to Naming Rule and Rights for Users.

Configure the self-service as follows.

Table 2-5 Configure the self-service

Operation	Command	Remarks
Enter system view	system-view	_
Enter LS view	location-server	_
Enter LS-GW view	gateway gateway-id	_
Enter subscriber number view	subscriber short-number long-number	_
Enable user self-service	srv-switch gui on	Required
Configure login password of the user self-service	gui-pwd user-log-password	Required The default login password is 1234.

□ Note:

The system checks the self-service operation every five minutes. After two system checks, if still no operation has been performed, the XE IP PBX disconnects a self-service user.

2.2.6 Configuring Operation Rights of Normal Administrators

For operation rights of normal administrators, refer to <u>User Management</u>.

I. Permit/prohibit normal administrators' operations on a specific gateway

This configuration takes effect after a normal administrator logs in through GUI client, and thus the normal administrator can perform permitted operations.

Table 2-6 Permit/prohibit normal administrators' operations on a specific gateway

Operation	Command	Remarks
Enter system view	system-view	_

Operation	Command	Remarks
Enter LS view	location-server	
Enter LS-GW view	gateway gateway-id	_
Permit/prohibit normal administrators' operations on a specific gateway	access { permit prohibit }	Required

II. Permit/prohibit normal administrators' operations on a specific office group

Table 2-7 Permit/prohibit normal administrators' operations on a specific office group

Operation	Command	Remarks
Enter system view	system-view	_
Enter LS view	location-server	_
Enter LS-OFFICEGROUP view	office-group office-group-id	
Permit/prohibit normal administrators' operations on a specific office group	access { permit prohibit }	Required

III. Permit/prohibit normal administrators' right to add/delete a gateway

Table 2-8 Permit/prohibit normal administrators' right to add/delete a gateway

Operation	Command	Remarks
Enter system view	system-view	_
Enter LS view	location-server	_
Permit/prohibit normal administrators' right to add/delete a gateway	access list gateway { permit prohibit }	Required

IV. Permit/prohibit normal administrators' right to add/delete an office group

Table 2-9 Permit/prohibit normal administrators' right to add/delete an office group

Operation	Command	Remarks
Enter system view	system-view	
Enter LS view	location-server	_
Permit/prohibit normal administrators' right to add/delete an office group	access list office-group { permit prohibit }	Required

V. Permit/prohibit normal administrators' right to run commands in gateway view

Table 2-10 Permit/prohibit normal administrators' right to run commands in gateway view

Operation	Command	Remarks
Enter system view	system-view	_
Enter LS view	location-server	_
Permit/prohibit normal administrators' right to run commands in gateway view	access command gateway { permit prohibit }	Required

VI. Permit/prohibit normal administrators' right to run commands in office group view

Table 2-11 Permit/prohibit normal administrators' right to run commands in office group view

Operation	Command	Remarks
Enter system view	system-view	
Enter LS view	location-server	_
Permit/prohibit normal administrators' right to run commands in office group view	Access command office-group { permit prohibit }	Required

VII. Permit/prohibit normal administrators' right to configure IP addresses for gateways

Table 2-12 Permit/prohibit normal administrators' right to configure IP addresses for gateways

Operation	Command	Remarks
Enter system view	system-view	
Enter LS view	location-server	_
Permit/prohibit normal administrators' right to configure IP addresses for gateways	access command gw:ip-address { permit prohibit }	Required

2.2.7 GUI Server Configuration Example

I. Network requirements

Enable the GUI server on the XE IP PBX and enable the Web service.

II. Configuration procedure

```
<XE>system-view
```

Configure the Ethernet interface.

```
[XE]interface ethernet 0/0
[XE-Ethernet0/0]ip address 192.168.80.50 255.255.255.0
[XE-Ethernet0/0]quit
```

Configure the GUI server.

```
[XE]gui
[XE-gui]gui-config interface ethernet 0/0
```

Enable the GUI server.

[XE-gui]start

Enable the Web service.

[XE-gui]web start

Chapter 3 GUI Client Configuration

3.1 Installing GUI Client

3.1.1 GUI Client Installation Procedure

The GUI client installation software is located in the flash:/web directory on the XE IP PBX. Before installation, ensure files index.html, zh_down.html, en_down.html, g-remote_ch.exe, g-remote_en.exe, banner.jpg, zh_down.png, en.png, zh.png, and zh describe.png are in this directory.

Mote:

The GUI client is installed through green copy. Therefore, to uninstall the GUI client, you can simply delete the installation folder, which defaults to C:\Program Files\G-Remote, and the corresponding shortcuts in the Start menu and on the desktop.

To install the GUI client:

1) Enable the Web server on the XE IP PBX.

Table 3-1 Enable the Web server

Operation	Command	Remarks
Enter system view	system-view	_
Enter GUI server configuration view	gui	_
Enable the Web server	web start	Required

 Visit http://xxx.xxx.xxx.xxx through IE on your PC to enter the GUI client download page shown in <u>Figure 3-1</u>. Here xxx.xxx.xxx refers to the IP address of the XE IP PBX.

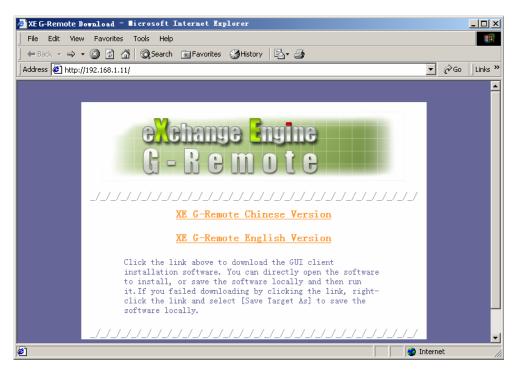


Figure 3-1 GUI client download page

3) Select [XE G-Remote English Version] on the GUI client download page and the [File Download] dialog box pops up, as shown in Figure 3-2.



Figure 3-2 [File Download] dialog box

4) Click <Run> or <Save> to download the installation file. The dialog box in Figure 3-3 displays the downloading progress.

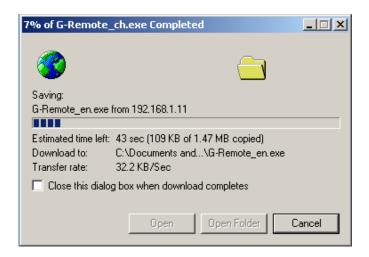


Figure 3-3 Download progress dialog box

5) Run the installation software after you download it. <u>Figure 3-4</u> shows the "XE-GUI Client" installation dialog box. Specify the destination folder where the GUI client will be installed and then click <Install>. During the installation, a progress bar appears at the bottom of the dialog box.

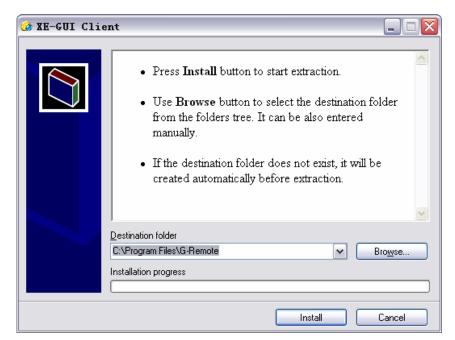


Figure 3-4 "XE-GUI Client" installation dialog box

After the installation, the [G-Remote] item appears in the [Start/Program/H3C] menu, and a G-Remote shortcut is added to the desktop.

6) Run the GUI client.

Three methods are available to start the GUI client:

Select [Start/Program/H3C/G-Remote].

- Double-click the G-Remote shortcut on the desktop.
- Double-click the G-Remote.exe icon in the folder where the GUI client is installed.

3.2 Introduction to Interfaces

3.2.1 Tool Bar

The GUI client software provides you with a shortcut tool bar, including the commonly used <Login>, <Close Connection>, <Output Bar>, and <About G-Remote> buttons. Figure 3-5 shows the tool bar.



Figure 3-5 Tool bar

3.2.2 Device Management Window

In the device management window, you can perform all operations on the device that you log on to. You can log on to multiple devices concurrently. Each device corresponds to a device management window, and you can perform the switchover between them as needed. Figure 3-6 shows the device management window.



Figure 3-6 Device management window

I. Navigation tree

All the configuration items for the XE IP PBX are included on the navigation tree shown in <u>Figure 3-7</u>. Here, you can query all the configuration data and status information, and change the configuration data.

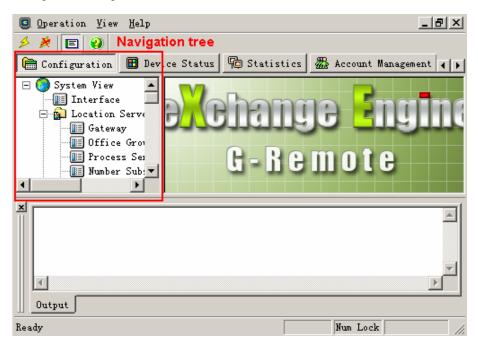


Figure 3-7 Navigation tree

II. Navigation bar of the view

The navigation bar displays the view path that you configure. The path corresponds to the configuration view in command line mode. <u>Figure 3-8</u> shows the navigation bar of the view.

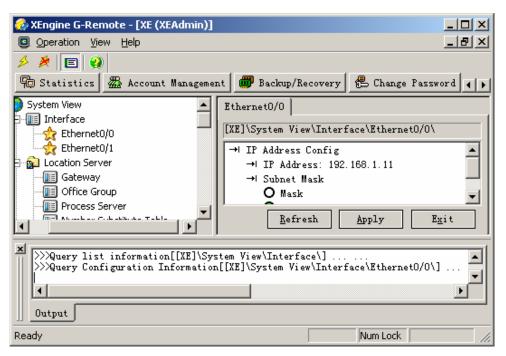


Figure 3-8 Navigation bar

III. Configuration window

The configuration window shown in <u>Figure 3-9</u> contains all the configuration parameters and is a main operating interface for you to use the GUI client to manage the XE IP PBX.

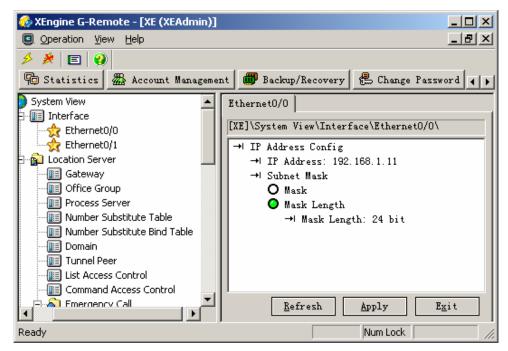


Figure 3-9 Configuration window

3.2.3 Output Window

The output window shown in <u>Figure 3-10</u> outputs all system prompts, including the information about query operations, execution of commands, connection interruption, and query timeout during the configuration management.

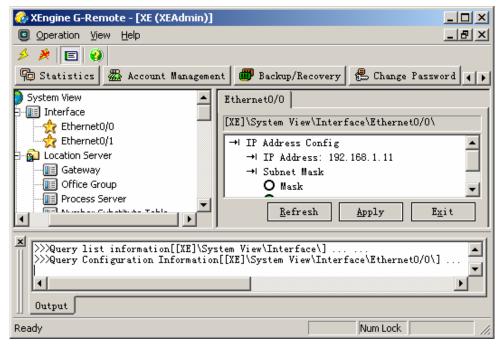


Figure 3-10 Output window

3.3 Login Management

3.3.1 Login

By default, you can enter the [Login Management] dialog box when the GUI client software is started, as shown in <u>Figure 3-11</u>.

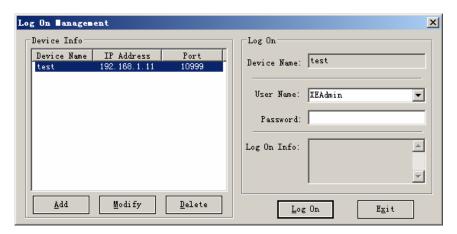


Figure 3-11 [Login Management] dialog box

Alternatively, you can display the [Login Management] dialog box through the menu or tool bar shown in <u>Figure 3-12</u> and <u>Figure 3-13</u> respectively.



Figure 3-12 Display the [Login Management] dialog box through the menu

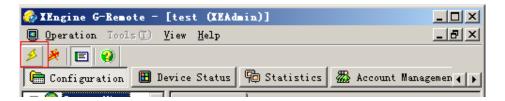


Figure 3-13 Display the [Login Management] dialog box through the tool bar

I. Add/modify a target device

Figure 3-14 shows the [Device Add/Modify] dialog box.

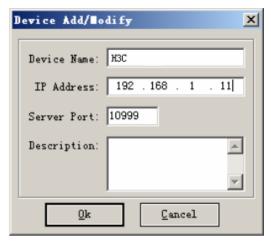


Figure 3-14 [Device Add/Modify] dialog box

Add a target device

Click <Add> on the [Login Management] page (see <u>Figure 3-11</u>) to bring up the [Device Add/Modify] page. Set the device name, IP address, port number of the GUI server, and description of the GUI server. Up to 1000 bytes are allowed in the [Description] field..

The default port of the GUI server is 10999. The port of the GUI server must be identical with the enabled service port.

Modify the target device information

Select a to-be-modified device from the device list on the [Login Management] page and click <Modify> to bring up the [Device Add/Modify] page. You can modify the device name, IP address, port number, and description of the GUI server.

II. Delete a target device

Select a target device from the device list on the [Login Management] page, and then click <Delete>.

III. Log on to a device

Log on to a device as follows:

- Select the desired XE IP PBX from the device list on the [Login Management] page.
- 2) Type the account and password in the corresponding combo box and text box respectively.
- 3) Click <Login> to manage the device that you logs into.

If you have logged into multiple XE IP PBXs, you can switch between them through the [View] menu.

A Note:

- The default account and password is XEAdmin and 88888888 respectively, and this is a super administrator account. To ensure the network security, you need to change the password in time after you log on to the device.
- A normal user needs to get a username and password from the administrator before logging onto the XE IP PBX with the self-service. A normal user's username is in the format of "gateway name + + short number excluding # + + long number". For example, for user 1001, which is under gateway gateway1 and whose short number is #1, the username is gateway1-1-1001. The default login password of a normal user is 1234.
- On a PC through which an administrator has logged onto a GUI server, a normal
 user cannot log on to the same GUI server. However, if a user has logged onto a
 GUI server first, an administrator can log on to the same GUI server on the same
 PC.
- If the GUI connection breaks up, due to IP address change for example, and later when you reconnect the GUI server, you need to restart GUI server through CLI or wait for ten minutes before reconnecting.

3.3.2 Close Connection

After logging into the XE IP PBX successfully, you can open the [Close Connection] dialog box through the menu or the tool bar. See <u>Figure 3-15</u>, <u>Figure 3-16</u> and <u>Figure 3-17</u>.



Figure 3-15 Open the [Close Connection] dialog box through the menu



Figure 3-16 Open the [Close Connection] dialog box through the tool bar



Figure 3-17 [Close connection] dialog box

3.4 Operations on the GUI Client

3.4.1 Configuring Device Parameters

I. Parameters set by users

To assign a value to such a parameter, click the parameter, type a value in the corresponding text box according to the format and value range as prompted by the system, and then press <Enter> or click anywhere outside the text box for confirmation.

<u>Figure 3-18</u> and <u>Figure 3-19</u> show a parameter before and after value assignment respectively.

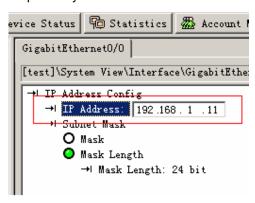


Figure 3-18 Parameter – before value assignment

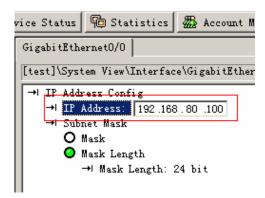


Figure 3-19 Parameter – after value assignment

Note:

As shown in <u>Figure 3-20</u>, you need to click <Apply> in the configuration window to validate the setting made in any view.

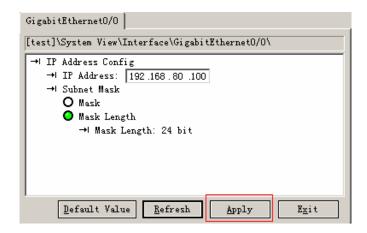


Figure 3-20 Click <Apply> to validate the setting

II. Parameters provided with optional values

To assign an optional value to such a parameter, click the parameter, and then select a value from the corresponding drop-down list for configuration. <u>Figure 3-21</u> and <u>Figure 3-22</u> show a parameter before and after value assignment respectively.

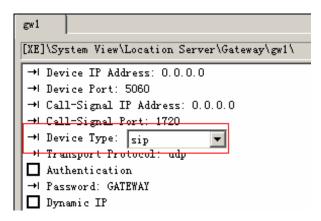


Figure 3-21 Parameter – before value assignment

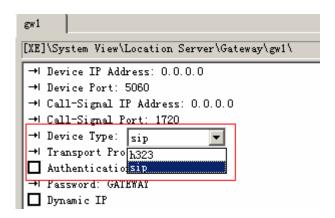


Figure 3-22 Parameter – after value assignment

III. Parameters configured by options

To assign a value to such a parameter, select one from the option list under the parameter.

```
gw1

[XE]\System View\Location Server\Gateway\gw1\

→  Subscriber Line Count: 4

→  PS Group ID:

→  Master Process Server:

→  Device Status

O Suspend
O Normal
O Forever Up

→  Manufacturer: h3c
→  TTL: 180 (Second)
```

Figure 3-23 Select a value from the option list

IV. Read-only parameters

In the configuration window, read-only parameters provide you with the basic configurations and status information of the device, as shown in <u>Figure 3-24</u>.

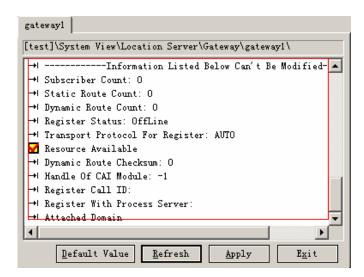


Figure 3-24 Read-only parameters

3.4.2 Restoring the Default Values

The GUI client allows you to restore the default settings. In the configuration window, click <Default Value> to select the parameters to be restored in the [Default Value] dialog box, and then click <Ok> to restore the default values of these parameters.

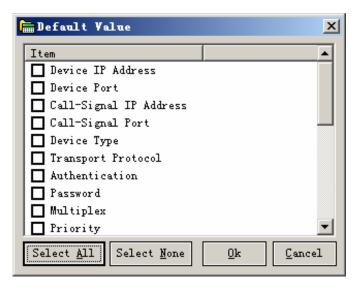


Figure 3-25 Restore the default values

3.4.3 Enabling/Disabling a Voice Service or a Feature

To enable a voice service or a feature, select the corresponding check box. To disable a voice service or a feature, clear the corresponding check box. The corresponding interface is shown in <u>Figure 3-26</u>.

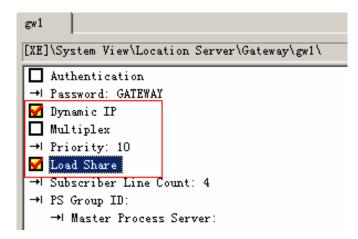


Figure 3-26 Enable/disable a voice service or a feature

Chapter 4 XE IP PBX Configuration

4.1 XE IP PBX Overview

The XE IP PBX supports both session initiation protocol (SIP) and H.323 recommendation, and thus is suitable for complex networks deployed with both SIP and H.323 devices. The XE IP PBX can serve as a location server (LS), a process server (PS) and/or a media server (MS).

A PS can serve as an H.323 gatekeeper and/or a SIP server, depending on your configuration. An LS can store the device and number information, and allow the PS to query the information. An MS can provide media services and media processing.

Figure 4-1 shows the XE IP PBX architecture.

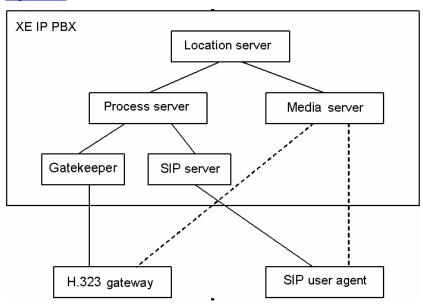


Figure 4-1 XE IP PBX architecture

4.2 XE IP PBX Configuration

4.2.1 XE IP PBX Configuration Overview

The XE IP PBX provides both centralized networking mode and distributed networking mode.

- In centralized networking mode, both LS and PS are enabled on an XE IP PBX, and the PS is configured to use local LS.
- In distributed networking mode, an XE IP PBX serves as an LS, other XE IP PBXs
 in the network serve as PSs, and the PSs are configured to use the remote LS.

The following table describes the basic procedure for configuring the XE IP PBX in a centralized network:

Table 4-1 Basic configuration procedure of the XE IP PBX

Step	Configuration task	Description	Detail	Remarks
1	Configure an Ethernet interface	 Expand [Interface] in the navigation tree. Select an Ethernet interface to access the user network, and configure its parameters in the configuration window. 	Section 4.2.2	Required
2	Configure the PS	Select [Process Server] in the navigation tree and configure its basic parameters in the configuration window.	Section <u>4.2.3 l.</u>	Required
3	Configure the PS to use the local LS	Select [Process Server] in the navigation tree and configure its mode as Local in the configuration window.	Section 4.2.3 I.	Required
4	Configure the SIP server and/or H.323 gatekeeper	Expand [Process Server] in the navigation tree. Select the H.323 gatekeeper and/or the SIP server, and configure their parameters in the configuration window.	Sections 4.2.3 II. and 4.2.3 III.	Required
5	Enable the PS	Select [Process Server] in the navigation tree. Select the [Start/Stop] check box in the configuration window.	Section 4.2.3	Required

Step	Configuration task	Description	Detail	Remarks
6	Enable the SIP server and/or H.323 gatekeeper	Expand [Process Server] in the navigation tree. Select the H.323 gatekeeper and/or the SIP server, and select the [Start/Stop] check box in the configuration window.	Sections 4.2.3 II. and 4.2.3 III.	Required
7	Configure the LS	Select [Location Server] in the navigation tree, and configure its basic parameters in the configuration window.	Section 4.2.4	Required
8	Configure the PS managed by the LS	Select [Location Server/Process Server] in the navigation tree, click <add> to add a PS in the configuration window, and double-click the PS to configure its basic parameters. Or Expand [Process Server] to select and configure the existing PS.</add>	Section 4.2.4	Required
9	Enable the LS	Select [Location Server] in the navigation tree. Select the [Start/Stop] check box.	Section 4.2.6 I.	Required
10	Configure the gateway or office device managed by the LS	Expand [Location Server] in the navigation tree. Select [Gateway] or [Office], and double-click the gateway or office device in the configuration window to configure its basic parameters.	Sections 4.2.6 III. and 4.2.6 V.	Required

Step	Configuration task	Description	Detail	Remarks
11	Configure a dialup scheme for the VoIP network	The dialup scheme for the VoIP network static includes the static route prefix configuration, voice subscriber line number configuration, and number substitution configuration.	Section 4.2.7	Optional
12	Configure registration backup and load sharing	This function can balance voice network load, perform functional backup for key devices, and stabilize the system running.	Section 4.2.8	Optional
13	Configure overload protection	This function ensures the stable system running even in the heavy load situation, and sets overload protection policies based on users' configuration.	Section 4.2.9	Optional
14	Configure NAT/FW tunnel traversal	This function enables voice communications between a private network and a public network or between two private networks across NAT/FW.	Section <u>4.2.10</u>	Optional
15	Configure voice service	The system provides diversified voice services to meet different application requirements.	_	Optional

☐ Note:

Super administrators can perform all configurations described in this manual, while normal administrators can perform part of them only. Refer to <u>User Management</u> for detailed information.

4.2.2 Configuring Interfaces

The Ethernet interface configuration includes the following information.

Table 4-2 Ethernet interface configuration

Step	Configuration task	Description	Remarks	
Basic c	Basic configuration			
1	Set the IP address of the Ethernet interface	 Expand [Interface] in the navigation tree. Select an Ethernet interface that is used to access the user network. Set the IP address correctly in the configuration window. Command: ip address (interface view) 	Required	
2	Set the subnet mask	 Expand [Interface] in the navigation tree. Select an Ethernet interface that is used to access the user network. Set the subnet mask correctly in the configuration window. Command: ip address (interface view) 	Required	
_	Enable/disable the function that kicks back high-priority LS	Select [Process Server] in the navigation tree and • Select the [Enable/Disable LS Kick Back] check box in the configuration window to enable the function. • Clear this check box to disable the function. Command: Is-back (PS view)	Optional	
_	Enable/disable the function that terminates overtime calls	 Expand [Process Server] in the navigation tree and Select the [Enable/Disable Call Interrupt By Long Time] check box in the configuration window to enable the function. Clear this check box to disable the function. Command: policy call-interrupt-by-long-time (PS view) 	Optional	
_	Configure the maximum call time, so that calls will be terminated if they exceeds this time	Select [Process Server] in the navigation tree. Set the time in the [Call Interrupt Time] text box in the configuration window. Command: policy call-interrupt-by-long-time (PS view)	Optional	

You can configure the subnet mask based on either dotted decimal notation or the mask length.

For detailed configurations, refer to H3C XE 200/2000 IP PBX Operation Manual and H3C XE 200/2000 IP PBX Command Manual.

4.2.3 Configuring the PS

I. Configure the basic information

Table 4-3 Configure the basic information

Step	Configuration task	Description	Remarks	
Basic o	Basic configuration			
1	Configure the PS ID	 Select [System View/Process Server] in the navigation tree. Set the PS ID correctly in the configuration window. Command: ps-config (PS view) 	Required	
2	Configure the PS interface	Select [System View/Process Server] in the navigation tree. Set the interface correctly in the configuration window. Command: ps-config (PS view)	Required	
3	Configure the heartbeat password	 Select [System View/Process Server] in the navigation tree. Set the heartbeat password correctly in the configuration window. Command: heartbeat password (PS view) 	Required	
4	Configure information of the LS to which the PS belongs	 Select [System View/Process Server/LS] in the navigation tree. Click <add> in the configuration window to bring up the [Add List Item] dialog box.</add> Set the index and mode correctly. The index value also represents the priority of the LS. The smaller the value is, the higher the priority is. The LS with the highest priority is the primary LS, and other LSs are secondary ones. Select the Local option in the [Add List Item] dialog box to configure the local LS mode. Select the Remote option and set the IP address correctly in the [Add List Item] dialog box to configure the remote LS mode. Command: Is-mode (PS view) 	Required	

Step	Configuration task	Description	Remarks
5	Start/stop the PS	Select [System View/Process Server] in the navigation tree and • Select the [Start/Stop] check box in the configuration window to start the PS. • Clear this check box to stop the PS. Command: start (PS view); stop (PS view)	Required
Advand	ced configuration		
_	Configure the timeout time the caller waits for an answer	Select [System View/Process Server] in the navigation tree. Set the timeout time correctly in the configuration window. Command: timeout caller wait-connect (PS view)	Optional
_	Configure the ringing time of an individual callee	Select [System View/Process Server] in the navigation tree. Set the ringing time of an individual callee correctly in the configuration window. Command: timeout callee ringing-time (PS view)	Optional
_	Enable/disable the function that kicks back high-priority LS	Select [System View/Process Server] in the navigation tree and Select the [Enable/Disable LS Kick Back] check box in the configuration window to enable the function. Clear this check box to disable the function. Command: Is-back (PS view)	Optional
_	Enable/disable the function that terminates overtime calls	Select [System View/Process Server] in the navigation tree and • Select the [Enable/Disable Call Interrupt By Long Time] check box in the configuration window to enable the function. • Clear this check box to disable the function. Command: policy call-interrupt-by-long-time (PS view)	Optional
_	Configure the maximum call time, so that calls will be terminated if they exceeds this time	Select [System View/Process Server] in the navigation tree. Set the time in the [Call Interrupt Time] text box in the configuration window. Command: policy call-interrupt-time (PS view)	Optional

II. Configure the gatekeeper

Table 4-4 Configure the gatekeeper

Step	Configuration task	Description	Remarks	
Basic c	Basic configuration			
1	Start/Stop the GK	Select [System View/Process Server/Gatekeeper] in the navigation tree. • Select the [Start/Stop] check box in the configuration window to start the gatekeeper. • Clear this check box to stop the gatekeeper. Command: start (PS-GK view); stop (PS-GK view)	Required	
2	Configure the RAS port of the GK	Select [System View/Process Server/Gatekeeper] in the navigation tree. Configure the RAS port correctly in the configuration window. Command: gk-config rasport (PS-GK view)	_	
3	Configure the Q931 port of the GK	Select [System View/Process Server/Gatekeeper] in the navigation tree. Configure the Q931 port in the configuration window correctly. Command: gk-config q931port (PS-GK view)	_	
Advand	ced configuration			
_	Enable/disable the IRR response of the GK	Select [System View/Process Server/Gatekeeper] in the navigation tree and. • Select the [IRR Response] check box in the configuration window to start the function. • Clear the check box to stop the function. Command: response-irr (PS-GK view)	Optional	
_	Configure the IRR frequency	Select [System View/Process Server/Gatekeeper] in the navigation tree. Set the IRR frequency correctly in the configuration window. Command: irr-frequency (PS-GK view)	Optional	

Step	Configuration task	Description	Remarks
_	Configure the LRQ processing method of the GK	Select [System View/Process Server/Gatekeeper] in the navigation tree, and • Select the [Transmit LRQ] check box to set the LRQ processing method of the GK to LRQ transparent transmission. • Clear the [Transmit LRQ] check box to set the LRQ processing method of the GK to LRQ termination. Command: Irq-mode (PS-GK view)	Optional

III. Configure a SIP proxy server

Table 4-5 Configure a SIP proxy server

Step	Configuration task	Description	Remarks
Basic c	configuration		
1	Start/stop the SIP server	Select [System View/Process Server/SIP Server] in the navigation tree, and • Select the [Start/Stop] check box in the configuration window to start the SIP server. • Clear the check box to stop the SIP server. Command: start (PS-SIP view); stop (PS-SIP view)	Required
Advano	l ced configuration	(
_	Repair TCP connection automatically	Select [System View/Process Server/SIP Server] in the navigation tree, and Select the [Repair TCP Connection] check box in the configuration window to enable the function. Clear this check box to disable the function. Command: repair-tcp (PS-SIP view)	Optional
_	Configure the SIP port of the SIP server	Select [System View/Process Server/SIP Server] in the navigation tree. Set the SIP port correctly in the configuration window. Command: sip-config port (PS-SIP view)	Optional

4.2.4 Configuring Media Resources

Table 4-6 Configure the media resource

Step	Configuration task	Description	Remarks
Basic o	Basic configuration		
1	Add MS-supported languages	 Select [System View/Media Ability/Language] in the navigation tree. Click <add> in the configuration window to bring up the [Add List Item] dialog box.</add> Set the language correctly and click <ok>.</ok> To batch add languages, click <add> in the [Add List Item] dialog box and add languages as desired.</add> Command: language (MA view) 	Required
2	Configure the media file formats supported by a language	 Select [System View/Media Ability/Language/the language to be configured/Format] in the navigation tree. Click <add> in the configuration window to bring up the [Add List Item] dialog box.</add> Set the media file format correctly and click <ok>.</ok> To batch add file formats, click <add> in the [Add List Item] dialog box and add formats as desired.</add> Command: format (Language configuration view of a MS-supported language) 	Required
3	Configure the media IDs supported by a file format	 Select [System View/Media Ability/Language/the language to be configured/Format/Media Resource Items] in the navigation tree. Click <add> in the configuration window to bring up the [Add List Item] dialog box.</add> Set the media ID and media file correctly and click <ok>.</ok> To batch add IDs, click <add> in the [Add List Item] dialog box and add items as desired.</add> Command: set-media (media format configuration view) 	Required
_	Delete an MS-supported language	Select [System View/Media Ability/Language] in the navigation tree. Select the language to be deleted and click <delete>. To batch delete languages, select the desired languages while pressing and holding <ctrl>, and then click <delete>. Command: undo language (MA view)</delete></ctrl></delete>	Optional

Step	Configuration task	Description	Remarks
_	Delete a media file format supported by a language	Select [System View/Media Ability/Language/the language to be configured/Format] in the navigation tree. In the configuration window, select the format to be deleted and click <delete>. To batch delete file formats, select the desired formats while pressing and holding <ctrl>, and then click <delete>. Command: undo format (Language configuration view of a MS-supported)</delete></ctrl></delete>	Optional
_	Delete a media ID supported by a file format	 Select [System View/Media Ability/Language/the language to be configured/Format/the format to be configured/Media Resource Items] in the navigation tree. Select the media ID to be deleted and click <delete>.</delete> To batch delete media IDs, select the desired IDs while pressing and holding <ctrl>, and then click <delete>.</delete></ctrl> Command: undo set-media (media format configuration view) 	Optional

☐ Note:

In this table, characters in italic means you can choose any item from the available ones. This principle applies throughout the manual.

4.2.5 Configuring the MS

I. Configure the MS

Table 4-7 Configure the MS

Step	Configuration task	Description	Remarks
Basic configuration			
1	Configure the MS ID	 Select [System View/Media Server] in the navigation tree. Set the ID correctly in the configuration window. Command: ms-config (MS view) 	Required

Step	Configuration task	Description	Remarks
2	Configure the MS interface	 Select [System View/Media Server] in the navigation tree. Set the interface name correctly in the configuration window. Command: ms-config (MS view) 	Required
3	Configure the heartbeat password between the MS and LS	 Select [System View/Media Server] in the navigation tree. Set the heartbeat password correctly in the configuration window. Command: heartbeat password (MS view) 	Required
4	Configure the LS mode	 Select [System View/Media Server] in the navigation tree. Set the location server argument in the configuration window as follows: Select the Local option to use the local LS. To use the remote LS, select the Remote option and specify the IP address of the LS correctly. Command: Is-mode (MS view) 	Required
5	Configure the MS-supported language	 Select [System View/Media Server] in the navigation tree. Set the desired language in the configuration window. Command: language (MS view) 	Optional
6	Enable/disable the MS	Select [System View/Media Server] in the navigation tree and Select the [System View/Start/Stop] check box to enable the MS. Clear this check box to disable the MS. Command: start (MS view); stop (MS view)	Required

II. Query the predefined languages and media formats supported by the MS

Table 4-8 Query the predefined languages and media formats supported by the MS

Step	Configuration task	Description	Remarks
_	Query the predefined languages supported by the	Select [System View/Media Server/Predefined Language] in the navigation tree to display all the MS-supported languages in the configuration window.	Required
	MS	Command: display location-server media-resource predefine language (any view)	
_	Query the predefined media formats supported	Select [System View/Media Server/Predefined Format] in the navigation tree to display all the MS-supported formats in the configuration window.	Required
	by the MS	Command: display location-server media-resource predefine format (any view)	

4.2.6 Configuring the LS

I. Configure the LS information

The LS includes the following information.

Table 4-9 Configure the information of the LS

Step	Configuration task	Description	Remarks
Basic	configuration		
1	Configure the Ethernet interface used for communication between LS and PS	Select [System View/Location Server] in the navigation tree. Set the interface correctly in the configuration window. Command: Is-config (LS view)	Required
2	Configure the port for the communication between LS and PS	 Select [System View/Location Server] in the navigation tree. Set the port correctly in the configuration window. Command: Is-config (LS view) 	Required

Step	Configuration	Description	Remarks
	task	Select [System View/Location Server] in	11011101110
3	Configure the call mode	the navigation tree. 2) Set the SIP call mode or H.323 call mode correctly in the configuration window.	Required
		Command: call-mode (LS view)	
4	Start/stop the LS	Select [System View/Location Server] in the navigation tree, and Select the [Start/Stop] check box in the configuration window to start the LS. Clear this check box to stop the LS. Command: start (LS view); stop (LS view)	Required
Advan	ced configuration		<u> </u>
_	Enable/disable random selection	Select [System View/Location Server] in the navigation tree, and Select the [Random Selection] check box in the configuration window to enable the function. Clear this check box to disable the function. Command: policy random-selection (LS view)	Optional
_	Enable/disable the number substitution inheritance function	 Select [System View/Location Server] in the navigation tree, and Select the [Inherited Substitution] check box in the configuration window to enable the function. Clear this check box to disable the function. Command: policy substitute-inherit (LS view) 	Optional
_	Enable/disable area code substitution	Select [System View/Location Server] in the navigation tree, and Select the [Area Code Substitution] check box in the configuration window to enable the function. Clear this check box to disable the function. Command: policy area-code-substitute (LS view)	Optional

Step	Configuration task	Description	Remarks
_	Enable/disable rule-based number substitution	Select [System View/Location Server] in the navigation tree, and Select the [Number Substitution] check box in the configuration window to enable the function. Clear this check box to disable the function. Command: policy num-substitute (LS view)	Optional
_	Configure the allowable heartbeat time range between the LS and the PS	 Select [System View/Location Server] in the navigation tree. Set the heartbeat time range correctly in the configuration window. Command: heartbeat-time-range (LS view) 	Optional
_	Admit/refuse requests from unknown devices	Select [System View/Location Server] in the navigation tree, and • Select the [Admit Unknown Device's Request] check box in the configuration window to start the function. • Clear this check box to stop the function. Command: policy unknown-device-admission (LS view)	Optional
_	Configure the method to select number for matching	Select [System View/Location Server] in the navigation tree. Select the value correctly in the [Number-Select Policy] list box in the configuration window. Command: policy select-rule (LS view)	Optional

II. Configure the PS under the LS

Table 4-10 Configure the PS under the LS

Step	Configuration task	Description	Remarks
Basic o	configuration		
1	Configure the heartbeat password	Expand [System View/Location Server/Process Server] in the navigation tree. Select the process server to be configured. Set the heartbeat password correctly in the configuration window. Command: heartbeat password (LS-PS view)	Required

Step	Configuration task	Description	Remarks
Advano	ced configuration		
_	Configure whether to enable multiplexing	 Expand [System View/Location Server/Process Server] in the navigation tree. Select the process server to be configured. Select the [Multiplex] check box in the configuration window to enable the function. Clear this check box to disable the function. Command: multiplex (LS-PS view) 	Optional

III. Configure MS information under the LS

Table 4-11 Configure MS information under the LS

Step	Configuration task	Description	Remarks
Basic o	configuration		
1	Configure the heartbeat password	Expand [System View/Location Server/Media Server] in the navigation tree. Select the MS to be configured, and set the heartbeat password correctly in the configuration window. Command: heartbeat password (LS-MS view)	Required
2	Configure the MS-supported language	Expand [System View/Location Server/Media Server] in the navigation tree. Select the MS to be configured, and set the desired language in the configuration window. Command: language (LS-MS view)	

IV. Configure the gateway under the LS

Table 4-12 Configure the gateway under the LS

Step	Configuration task	Description	Remarks			
Basic o	Basic configuration					
	Add one or more gateways	 Select [System View/Location Server/Gateway] in the navigation tree. Click <add> to bring up the [Add List Item] dialog box.</add> Set the gateway ID correctly and click <ok>.</ok> To batch add gateways, click <add> in the [Add List Item] dialog box and add multiple gateway identifiers, then click <ok>.</ok></add> Command: gateway (LS view) 	Required			
_	Delete one or more gateways	Expand [System View/Location Server/Gateway] in the navigation tree. Select the gateway to be deleted and click <delete>. To batch delete gateways, press and hold <ctrl> when selecting these gateways, and then click <delete>. Command: undo gateway (LS view)</delete></ctrl></delete>	Optional			
Configu PBX	ure to register the	gateway that supports dynamic IP report with the	ne XE IP			
1	Configure the type of the gateway	Expand [System View/Location Server/Gateway] in the navigation tree. Select the gateway to be configured. Set the device type correctly in the configuration window. Command: device-type (LS-GW view)	Required			
2	Configure whether to support dynamic IP report	 Expand [System View/Location Server/Gateway] in the navigation tree. Select the gateway to be configured and Select the [Dynamic IP] check box in the configuration window to support dynamic IP report. Clear this check box to not support dynamic IP report. Command: dynamic-ip (LS-GW view) 	Required			
		gateway that does not support dynamic IP repo permanent online function of the gateway	ort with the			

Step	Configuration task	Description	Remarks
1	Configure the type of the gateway	Expand [System View/Location Server/Gateway] in the navigation tree. Select the gateway to be configured. Set the device type correctly in the configuration window. Command: device-type (LS-GW view)	Required
2	Configure the IP address of the gateway	Expand [System View/Location Server/Gateway] in the navigation tree. Select the gateway to be configured. Set the device IP address correctly in the configuration window. Command: ip-address (LS-GW view)	Required
3	Configure the port of the gateway	Expand [System View/Location Server/Gateway] in the navigation tree. Select the gateway to be configured. Set the device port correctly in the configuration window. Command: port (LS-GW view)	Required
4	Configure the call signal IPv4 address of the gateway	Expand [System View/Location Server/Gateway] in the navigation tree. Select the gateway to be configured. Set the call signal IP address correctly in the configuration window. For SIP UAC, this parameter does not need to be configured. Command: call-signal ip-address (LS-GW view)	Required
5	Configure the call signaling port of the gateway	Expand [System View/Location Server/Gateway] in the navigation tree. Select the gateway to be configured. Set the call signaling port correctly in the configuration window. For SIP UAC, this parameter does not need to be configured. Command: call-signal port (LS-GW view)	Required
6	Configure the status of the gateway	Expand [System View/Location Server/Gateway] in the navigation tree. Select the gateway to be configured. Set the device status correctly in the configuration window. When selecting the Forever Online option, you also need to correctly set the domain that the device belongs to. Command: device-status (LS-GW view)	Optional

Step	Configuration task	Description	Remarks
7	Configure the default priority of the gateway	Expand [System View/Location Server/Gateway] in the navigation tree. Select the gateway to be configured, and set the priority correctly in the configuration window. Command: priority (LS-GW view)	Optional
Configu	ure the registration	n authentication and call authentication of the ga	ateway
1	Configure whether authentication is needed for the gateway	Expand [System View/Location Server/Gateway] in the navigation tree. Select the gateway to be configured and Select the [Authentication] check box to enable registration and call authentications in the configuration window. Clear this check box to disable the function. Command: authentication (LS-GW view)	Optional
2	Configure the authentication password of the gateway	 Expand [System View/Location Server/Gateway] in the navigation tree. Select the gateway to be configured. Set the authentication password correctly in the configuration window. Command: password (LS-GW view) 	Optional
Advand	ced configuration		
_	Configure the manufacturer information for the gateway	 Expand [System View/Location Server/Gateway] in the navigation tree. Select the gateway to be configured. Set the manufacturer correctly in the configuration window: Select the h3c option for H3C voice devices Select the other option for other manufacturers' products. Command: manufacturer (LS-GW view) 	Optional
_	Configure the transport layer protocol for the gateway that serves as an SIP UA	 Expand [System View/Location Server/Gateway] in the navigation tree. Select the gateway to be configured. Set the transport layer protocol correctly in the configuration window. Command: transport (LS-GW view) 	Optional

Step	Configuration task	Description	Remarks
_	Enable/disable multiplexing	Expand [System View/Location Server/Gateway] in the navigation tree. Select the gateway to be configured and Select the [Multiplex] check box in the configuration window to enable multiplexing. Clear this check box to disable multiplexing. Command: multiplex (LS-GW view)	Optional
_	Configure the time to live (TTL) for registration	Expand [System View/Location Server/Gateway] in the navigation tree. Select the gateway to be configured. Set the TTL interval correctly in the [TTL] text box in the configuration window. Command: ttl (LS-GW view)	Optional
_	Configure the audio codec type used when the GK initiates capability negotiation to the gateway	 Expand [System View/Location Server/Gateway] in the navigation tree. Select the gateway to be configured. Set the proper values for codec type and packet length correctly under [Audio Codec] in the configuration window. Command: codec audio (LS-GW view) 	Optional
_	Configure the video codec type used when the GK initiate capability negotiation to the gateway	Expand [System View/Location Server/Gateway] in the navigation tree. Select the gateway to be configured. Set the video codec type correctly by the [Video Codec] item in the configuration window. Command: codec video (LS-GW view)	Optional
_	Configure the bearer capability type for the gateway	 Expand [System View/Location Server/Gateway] in the navigation tree. Select the gateway to be configured. Set a bearer capability type correctly from the [Bearer Capability Type] item in the configuration window. Command: bearer-capability (LS-GW view) 	Optional

V. Configure the office group information under the LS

Table 4-13 Configure the office group information under the LS

Step	Configuration task	Description	Remarks
Basic c	onfiguration		
_	Add one or more office groups	Select [System View/Location Server/Office Group] in the navigation tree. Click <add> to bring up the [Add List Item] dialog box. Set the office name correctly and click <ok>. Command: office-group (LS view)</ok></add>	Required
_	Delete one or more office groups	Expand [System View/Location Server/Office Group] in the navigation tree. Select the office group to be deleted and click <delete>. To batch delete office groups, press and hold <ctrl> when selecting these office devices, and then click <delete> Command: undo office (LS view)</delete></ctrl></delete>	Optional
Basic c	onfiguration of of	fice group	
1	Configure the domain that the office group belongs to	 Expand [System View/Location Server/Office Group] in the navigation tree. Select the office group to be configured. Set the domain that the device belongs to in the configuration window. Command: belongto (LS-OFFICEGROUP view) 	Required
2	Configure the static route prefix of the office group	 Select [System View/Location Server/Office Group/the office group to be configured/Prefix] in the navigation tree. Click <add> in the configuration window to bring up the [Add List Item] dialog box.</add> Set the static route prefix correctly in the [Prefix] text box and click <ok>.</ok> To batch add static route prefixes, click <add> in the [Add List Item] dialog box, set static route prefixes as desired, and then click <ok>.</ok></add> Command: prefix (LS-OFFICEGROUP view) 	Required

Step	Configuration task	Description	Remarks
3	Delete one or more static route prefixes of the office group	Expand [System View/Location Server/Office Group/the office group to be configured/Prefix] in the navigation tree. Select the static route prefix to be deleted in the configuration window and click <delete>. To batch delete static route prefixes, select the desired prefixes while pressing and holding <ctrl>, and then click <delete>. Command: undo prefix</delete></ctrl></delete>	Optional
4	Add one or more office devices	 (LS-OFFICEGROUP view) Select [System View/Location Server/Office Group/the office group to be configured/Office] in the navigation tree. Click <add> in the configuration window to bring up the [Add List Item] dialog box.</add> Specify the device name and click <ok>.</ok> To batch add devices, click <add> in the</add> 	Required
		[Add List Item] dialog box, add devices as desired and click <ok>. Command: office (LS-OFFICEGROUP view)</ok>	
5	Delete one or more office devices	Expand [System View/Location Server/Office Group/the office group to be configured/Office] in the navigation tree. Select the office device to be deleted and click <delete>. To batch delete devices, select the desired devices while pressing and holding <ctrl>, and then click <delete>. Command: undo office (LS-OFFICEGROUP view)</delete></ctrl></delete>	Optional

and set the type correctly in the configuration window. Command: device-type (LS-OFFICEGROUP-OFFICE view) 1) Expand [System View/Location Server/Office Group/the office group to be configured/Office] in the navigation tree 2) Select the office device to be configured. 3) Set the IP address correctly in the configuration window. Command: ip-address (LS-OFFICEGROUP-OFFICE view) 1) Expand [System View/Location Server/Office Group/the office group to be configured/Office] in the navigation tree. 2) Select the office device to be configured. 3) Set the port correctly in the configuration window. Command: port (LS-OFFICEGROUP-OFFICE view) 1) Expand [System View/Location Server/Office Group/the office group to be configured/Office] in the navigation tree. 2) Select the office device to be configured. 3) Set the protocol correctly in the configuration window. Command: port (LS-OFFICEGROUP-OFFICE view) 1) Expand [System View/Location Server/Office Group/the office group to be configured/Office] in the navigation tree. 2) Select the office device to be configured. 3) Set the protocol correctly in the configuration window. Command: transport (LS-OFFICEGROUP-OFFICE view) 1) Expand [System View/Location Server/Office Group/the office group to be configuration window. Command: transport (LS-OFFICEGROUP-OFFICE view) 1) Expand [System View/Location Server/Office Group/the office group to be configuration window. Command: transport (LS-OFFICEGROUP-OFFICE view) 1) Expand [System View/Location Server/Office Group/the office group to be configured/Office] in the navigation tree.	Step	Configuration task	Description	Remarks
Configure the type of an office device	Office	Office device basic configuration		
Server/Office Group/the office group to be configured/Office] in the navigation tree 2) Select the office device to be configured. 3) Set the IP address correctly in the configuration window. Command: ip-address (LS-OFFICEGROUP-OFFICE view) 1) Expand [System View/Location Server/Office Group//the office group to be configured/Office] in the navigation tree. 2) Select the office device to be configured. 3) Set the port correctly in the configuration window. Command: port (LS-OFFICEGROUP-OFFICE view) 1) Expand [System View/Location Server/Office Group//the office group to be configured/Office] in the navigation tree. Configure the transport protocol that an office device uses Configuration window. Command: transport (LS-OFFICEGROUP-OFFICE view) 1) Expand [System View/Location Server/Office device to be configured. 3) Set the protocol correctly in the configuration window. Command: transport (LS-OFFICEGROUP-OFFICE view) 1) Expand [System View/Location Server/Office Group//the office group to be configured/Office] in the navigation tree. 2) Select the office device to be configured. 3) Set the protocol correctly in the configured/Office Group//the office group to be configured/Office] in the navigation tree. Configure the default route number priority for an Server/Office device to be configured. 3) Set the priority correctly in the office group to be configured/Office] in the navigation tree.	1	type of an	Server/Office Group/the office group to be configured/Office] in the navigation tree. 2) Select the office device to be configured and set the type correctly in the configuration window. Command: device-type	Required
Server/Office Group//the office group to be configured/Office] in the navigation tree. 2) Select the office device to be configured. 3) Set the port correctly in the configuration window. Command: port (LS-OFFICEGROUP-OFFICE view) 1) Expand [System View/Location Server/Office Group//the office group to be configured/Office] in the navigation tree. 2) Select the office device to be configured. 3) Set the protocol correctly in the configured. 3) Set the protocol correctly in the configuration window. Command: transport (LS-OFFICEGROUP-OFFICE view) 1) Expand [System View/Location Server/Office Group//the office group to be configured/Office] in the navigation tree. Configure the default route number priority for an 3) Set the priority correctly in the	2	IP address of an office	Server/Office Group/the office group to be configured/Office] in the navigation tree 2) Select the office device to be configured. 3) Set the IP address correctly in the configuration window. Command: ip-address	Required
Configure the transport protocol that an office device uses 2) Select the office device to be configured. 3) Set the protocol correctly in the configuration window. Command: transport (LS-OFFICEGROUP-OFFICE view) 1) Expand [System View/Location Server/Office Group/the office group to be configured/Office] in the navigation tree. Configure the default route number priority for an 3) Set the priority correctly in the Optional	3	port of an	Server/Office Group//the office group to be configured/Office] in the navigation tree. 2) Select the office device to be configured. 3) Set the port correctly in the configuration window. Command: port	Required
Server/Office Group//the office group to be configured/Office] in the navigation tree. Server/Office Group//the office group to be configured/Office] in the navigation tree. Select the office device to be configured. Optional of the priority for an optional opti	4	transport protocol that an office	Server/Office Group//the office group to be configured/Office] in the navigation tree. 2) Select the office device to be configured. 3) Set the protocol correctly in the configuration window. Command: transport	Optional
Command: priority (LS-OFFICEGROUP-OFFICE view) Advanced configuration		default route number priority for an office device	Server/Office Group//the office group to be configured/Office] in the navigation tree. 2) Select the office device to be configured. 3) Set the priority correctly in the configuration window. Command: priority	Optional

Step	Configuration task	Description	Remarks
_	Enable/disable multiplexing	1) Expand [System View/Location Server/Office Group//the office group to be configured/Office] in the navigation tree. 2) Select the office device to be configured and • Select the [Multiplex] check box in the configuration window to enable multiplexing. • Clear this check box to disable multiplexing. Command: multiplex (LS-OFFICEGROUP-OFFICE view)	Optional
_	Configure the audio codec type used when the GK initiates capability negotiation to an office device	 Expand [System View/Location Server/Office Group//the office group to be configured/Office] in the navigation tree. Select the office gateway to be configured. Set the proper values for codec type and packet length under [Audio Codec] in the configuration window. Command: codec audio (LS-OFFICEGROUP-OFFICE view) 	Optional
_	Configure the video codec type used when the GK initiates capability negotiation to an office device	Expand [System View/Location Server/Office Group//the office group to be configured/Office] in the navigation tree. Select the office gateway to be configured. Set the video codec type correctly by the [Video Codec] item in the configuration window. Command: codec video (LS-OFFICEGROUP-OFFICE view)	Optional
_	Configure the bearer capability type for the office device	Expand [System View/Location Server/Office Group//the office group to be configured/Office] in the navigation tree. Select the office gateway to be configured. Set a bearer capability type correctly from the [Bearer Capability Type] item in the configuration window. Command: bearer-capability (LS-OFFICEGROUP-OFFICE view)	Optional

4.2.7 Configuring the VoIP Network Dialup Scheme

I. Configure a static route prefix

Table 4-14 Configure a static route prefix

Step	Configuration task	Description	Remarks
Basic c	Basic configuration		
1	Add a static route prefix	 Expand [System View/Location Server/Gateway] or [System View/Location Server/Office Group] in the navigation tree. Select the gateway or office group to be configured and then [Prefix]. Click <add> in the configuration window.</add> Set the static route prefix correctly in the [Add List Item] dialog box. Command: prefix (LS-GW view); prefix (LS-OFFICEGROUP view) 	Required
2	Configure the priority of a static route prefix	Expand [System View/Location Server/Gateway] or [System View/Location Server/Office Group] in the navigation tree. Select the gateway or office group to be configured Select [Prefix] and then the static route prefix to be configured. Set the priority correctly in the [Add List Item] dialog box. Command: priority (PREFIX view)	Optional
3	Configure the attribute of a static route prefix	 Expand [System View/Location Server/Gateway] or [System View/Location Server/Office Group] in the navigation tree Select the gateway or office group to be configured. Select [Prefix] and then the static route prefix to be configured Set the channel correctly in the [Add List Item] dialog box: Select the FXS option if the static route prefix is a subscriber number. Select the relay option if the static route prefix is a relay number. Command: otapc (PREFIX view) 	Optional

II. Configure the information about the voice subscriber line number

Table 4-15 Configure the information about the voice subscriber line number

Step	Configuration task	Description	Remarks
Basic o	configuration		
1	Add a voice subscriber line number	 Expand [System View/Location Server/Gateway/the gateway to be configured/Subscriber] in the navigation tree. Click <add> in the configuration window and set the short number and long number correctly in the [Add List Item] dialog box.</add> Command: subscriber (LS-GW view) 	Required
2	Configure the priority of the voice subscriber line number	 Expand [System View/Location Server/Gateway/the gateway to be configured/Subscriber] in the navigation tree. Select the voice subscriber line number to be configured. Set the priority of the subscriber line number correctly in the configuration window. Command: priority (subscriber view) 	Optional

III. Configure area code substitution

Table 4-16 Configure area code substitution

Step	Configuration task	Description	Remarks	
Basic o	configuration			
Configu	uration on the LS			
1	Enable/disable area code substitution	 Select [System View/Location Server] in the navigation tree, and Select the [Area Code Substitution] check box in the configuration window to enable the function. Clear this check box to disable the function. Command: policy area-code-substitute (LS view) 	Required	
Configu	Configuration on the gateway/office group			

Step	Configuration task	Description	Remarks
1	Configure whether to perform number substitution when the LS sends numbers to the called device	 Expand [System View/Location Server/Gateway] or [System View/Location Server/Office Group] in the navigation tree. Select the gateway or office group to be configured, and Select the [Area Code Substitution] check box in the configuration window to enable number substitution. Clear the check box to disable the function. Clear the check box if the called device supports the area code substitution function. Command: area-code-substitute (LS-GW view); area-code-substitute (LS-GFICEGROUP view) 	Optional
2	Configure country/region code of the gateway or office device	 Expand [System View/Location Server/Gateway] or [System View/Location Server/Office Group] in the navigation tree. Select the gateway or office group to be configured. Set the country/region code correctly in the configuration window. Command: area-code (LS-GW view); area-code (LS-OFFICEGROUP view) 	Required

IV. Configure rule-based number substitution

 Table 4-17 Configure rule-based number substitution

Step	Configuration task	Description	Remarks	
Basic o	configuration			
1	Enable/disable number substitution	Select [System View/Location Server] in the navigation tree, and Select the [Number Substitution] check box in the configuration window to enable the function. Clear this check box to disable the function. Command: policy num-substitute (LS view)	Required	
Create	Create and bind a number substitution rule table			

Step	Configuration task	Description	Remarks
1	Create a number substitution rule table	 Expand [System View/Location Server] in the navigation tree. Select the number substitution table. Click <add> in the configuration window and set the name of the number substitution table correctly in the [Add List Item] dialog box.</add> You can click <add> in the [Add List Item] dialog box to batch add number substitution tables.</add> Command: number-substitute (LS view) 	Required
2	Create a number substitution rule in the rule table	 Select [System View/Location Server/Number Substitute Table/the number substitution table to be configured/Substitute Rule] in the navigation tree. Click <add> in the configuration window.</add> Set the rule information correctly in the [Add List Item] dialog box. The configuration includes Rule Tag, Caller, Callee, and Time. Command: rule (number substitution view) 	Required
3	Bind a number substitution rule table to the global attribute of the LS	 Select [System View/Location Server/Number Substitute Bind Table] in the navigation tree. Click <add> in the configuration window.</add> Set the name of the number substitution rule table correctly in the [Add List Item] dialog box. To bind multiple number substitution rule tables, click <add>.</add> Command: substitute (LS view) 	Optional
4	Bind a number substitution rule table to the gateway or office group	 Expand [System View/Location Server/Gateway] or [System View/Location Server/Office Group] in the navigation tree. Expand the gateway or office group to be configured, and select [Number Substitution Bind Table]. Click <add> in the configuration window and select the name of the number substitution rule table correctly in the [Add List Item] dialog box.</add> To bind multiple number substitution rule tables, click <add>.</add> Command: substitute (LS-GW view); substitute (LS-OFFICEGROUP view) 	Optional

Step	Configuration task	Description	Remarks
5	Bind a number substitution rule table to a static route prefix	 Expand [System View/Location Server/Gateway] or [System View/Location Server/Office Group] in the navigation tree. Expand the gateway or office group to be configured. Expand [Prefix] and select the static route prefix to be configured. Select [Number Substitute Bind Table]. Click <add> in the configuration window and select the name of the number substitution rule table correctly in the [Add List Item] dialog box.</add> To bind multiple number substitution rule tables, click <add>.</add> Command: substitute (PREFIX view) 	Optional
6	Bind a number substitution rule table to the voice subscriber line number information	Select [System View/Location Server/Gateway/the gateway to be configured/Subscriber Line Number/the voice subscriber line number to be configured/Number Substitute Bind Table] in the navigation tree. Click <add> in the configuration window and select the name of the number substitution rule table correctly in the [Add List Item] dialog box. To bind multiple number substitution rule tables, click <add>. Command: substitute (subscriber view)</add></add>	Optional
Configu	ure a number subs		
1	Configure the number substitution rule under the gateway or office group	1) Expand [System View/Location Server/Gateway] or [System View/Location Server/Office Group] in the navigation tree and the gateway or office group to be configured. 2) Select [Number Substitute Rule Table] and click <add> in the configuration window. 3) Set the number substitution rule information correctly in the [Add List Item] dialog box. The configuration includes the rule ID, caller, callee, and substitution time. To configure multiple number substitution rules, click <add>. Command: rule (LS-GW view); rule (LS-OFFICE view)</add></add>	Optional

Step	Configuration task	Description	Remarks
2	Configure a number substitution rule under a static router prefix	 Expand [System View/Location Server/Gateway] or [System View/Location Server/Office Group] in the navigation tree and the gateway or office group to be configured. Select [Prefix/the static route prefix to be configured/Number Substitute Rule Table]. Click <add> in the configuration window.</add> Set the number substitution rule information correctly in the [Add List Item] dialog box. The configuration includes the rule number, caller, callee, and substitution time. To configure multiple number substitution rules, click <add></add> Command: prefix-rule (PREFIX view) 	Optional
3	Configure the number substitution rule under the voice subscriber line number information	 Expand [System View/Location Server/Gateway] or [System View/Location Server/Office] in the navigation tree and the gateway to be configured. Select [Subscriber Line Number/the voice subscriber line number to be configured/Number Substitute Rule Table] Click <add> in the configuration window.</add> Set the number substitution rule information correctly in the [Add List Item] dialog box. The configuration includes the rule number, caller, callee, and substitution time. To configure multiple number substitution rules, click <add>.</add> Command: sscb-rule (subscriber view) 	Optional

4.2.8 Configuring Backup and Load Sharing

I. Configure LS Backup

Table 4-18 LS backup configuration

Step	Configuration task	Description	Remarks
1	Configure PS information on the primary LS and all secondary LSs	Refer to Configure the PS under the LS for details.	Required

Step	Configuration task	Description	Remarks
2	Configure gateway information on the primary LS and all secondary LSs	Refer to Configure the gateway under the LS for details.	Required
3	Configure information about the primary LS and secondary LSs on the PS	1) Select [System View/Process Server/LS] in the navigation tree. 2) Click <add> in the configuration window to bring up the [Add List Item] dialog box and then set the index and mode correctly. The index value also represents the priority of the LS. The LS with the highest priority is the primary LS. Select the Local option in the [Add List Item] dialog box when the LS and PS are located on the same XE IP PBX. Select the Remote option in the [Add List Item] dialog box when the LS and PS are located on different XE IP PBXs. In this case, you need to set the IP address correctly. Set the port when needed. Command: Is-mode (PS view)</add>	Required

II. Configure PS-GROUP Backup

Table 4-19 Configure PS-GROUP backup

Step	Configuration task	Description	Remarks
Basic c	onfiguration		
Configuration on the LS			
1	Configure the PS group that the LS belongs to	Expand [System View/Location Server/Process Server] in the navigation tree and select the PS to be configured. Set the PS group name correctly in the configuration window. Command: psgroup-id (LS-PS view)	Required

Step	Configuration task	Description	Remarks
2	Configure the gatekeeper port number carried in an H.323 registration response message	Expand [System View/Location Server/Process Server] in the navigation tree and the PS to be configured. Set the RAS port correctly in the configuration window. This is configured when the PS serves as a gatekeeper. Command: ras-port (LS-PS view)	Required
3	Configure the SIP server port number carried in a SIP registration response message	Expand [System View/Location Server/Process Server] in the navigation tree and the PS to be configured. Set the SIP port correctly in the configuration window. This is configured when the PS serves as a SIP server. Command: sip-port (LS-PS view)	Required
4	Configure the relative capability of a PS in a PS group	 Expand [System View/Location Server/Process Server] in the navigation tree and the PS to be configured. Set the relative capability of registration processing correctly in the configuration window. Command: relative-capability (LS-PS view) 	Required
Configu	uration on the gat	eway	
1	Configure whether the gateway is involved in the registration backup and load sharing	 Expand [System View/Location Server/Gateway] in the navigation tree. Select the gateway to be configured and Select the [Load Share] check box in the configuration window to enable the function. Clear this check box to disable the function. Clear the check box for the device without the capability of registration backup and load sharing. Command: load-share (LS-GW view) 	Optional
2	Configure the PS group of the gateway	 Expand [System View/Location Server/Gateway] in the navigation tree. Select the gateway to be configured. Set the PS group ID correctly in the configuration window. Command: psgroup-id (LS-GW view) 	Required

Step	Configuration task	Description	Remarks
3	Configure the voice subscriber line count allowed by the gateway	Expand [System View/Location Server/Gateway] in the navigation tree. Select the gateway to be configured. Set the subscriber line count correctly in the configuration window. Command: subsline-sum (LS-GW view)	Required

III. Configure OFFICE-GROUP-PS Backup

Table 4-20 Configure OFFICE-GROUP-PS backup

Step	Configuration task	Description	Remarks
1	Configure a office group on the LS	Refer to Configure the office group information under the LS for details.	Required
2	Configure the static route prefix to route to the office group	Refer to Configure a static route prefix for details.	Required
3	Configure basic information about the primary PS and secondary PSs in office group view	Refer to Configure the office group information under the LS for details.	Required
4	Configure the registration port of an office device	Select [System View/Location Server/Office Group/the office group to be configured/Office/the office device to be configured] in the in the navigation tree. Set the registration port correctly in the configuration window. Command: register-port (LS-OFFICEGROUP-OFFICE view)	Required

Step	Configuration task	Description	Remarks
5	Configure the device type of an office device	1) Select [System View/Location Server/Office Group/the office group to be configured/Office/the office device to be configured] in the navigation tree. 2) Set the device type correctly in the configuration window. Command: device-type (LS-OFFICEGROUP-OFFICE view)	Required

IV. Configure Load Sharing

The operations configuring load sharing are similar to those configuring PS-GROUP backup. Refer to Configure PS-GROUP Backup for details.

4.2.9 Configuring CPU Overload Protection

Table 4-21 CPU overload protection configuration

Step	Configuration task	Description	Remarks
Basic o	configuration		
1	Configure the overload protection table	Select [System View/CPU Overload Protection/Overload Protection Table] in the navigation tree. Click <add> in the configuration window and set the CPU usage rate and packet drop rate correctly in the [Add List Item] dialog box. Command: cpu (overload protection view)</add>	Required
2	Enable/disable overload protection	Select [System View/CPU Overload Protection] in the navigation tree and • Select the [Start/Stop] check box in the configuration window to enable CPU overload protection. • Clear this check box to disable the function. Command: start (CPU overload protection view); stop (CPU overload protection view)	Required

4.2.10 Configuring NAT/FW Tunnel Traversal

Table 4-22 NAT/FW tunnel traversal configuration

Step	Configuration task	Description	Remarks		
Config	Configuration on the public LS				
1	Configure the Ethernet interface used for the communication between the LS and the PS	Select [System View/Location Server] in the navigation tree, and set the interface name correctly in the configuration window. Command: Is-config (LS view)	Required		
2	Configure the port used for the communication between the LS and the PS	Select [System View/Location Server] in the navigation tree, and set the port correctly in the configuration window. Command: Is-config (LS view)	Required		
3	Configure the call mode	Select [System View/Location Server] in the navigation tree, and set both the SIP and H323 call mode to routed mode in the configuration window. Command: call-mode (LS view)	Required		
4	Start the LS	Select [System View/Location Server] in the navigation tree, and • Select the [Start/Stop] check box in the configuration window to start the LS. • Clear this check box to stop the LS. Command: start (LS view)	Required		
5	Configure the domain name	Select [System View/Location Server/Domain] in the navigation tree. Click <add> in the configuration window. Set the domain name correctly in the [Add List Item] dialog box. You can click <add> in the [Add List Item] dialog box to batch add domain identifications. Command: domain (LS view)</add></add>	Required		
6	Configure the domain attribute	Select [System View/Location Server/Domain/the domain to be configured] in the navigation tree. Set the domain attribute correctly in the configuration window. Command: attribute (LS-DOMAIN view)	Required		

Step	Configuration task	Description	Remarks		
7	Configure the PS information under the LS	Refer to Configure the PS under the LS for details.	Required		
8	Configure the PS to enable the NAT/FW traversal function.	Select [System View/Location Server/Process Server/the PS to be configured] in the navigation tree and • Select the [Tunnel Enable] check box to enable the function. • Clear this check box to disable the function. Command: tunnel (LS-PS view)	Required		
9	Configure the domain that the PS belongs to	Select [System View/Location Server/Process Server/the PS to be configured] in the navigation tree. Correctly set the domain that the PS belongs to in the configuration window. Command: belongto (LS-PS view)	Required		
10	Configure the tunnel peer	Select [System View/Location Server/Tunnel/Tunnel Peer] in the navigation tree. Click <add> in the configuration window, and set the parameters for the tunnel peer correctly in the [Add List Item] dialog box. You can click <add> in the [Add List Item] dialog box to batch add tunnel peers. Command: tunnelpeer (LS-NAT&FW view)</add></add>	Required		
11	Configure the gateway or office information under the LS	Refer to sections Configure MS information under the LS and Configure the office group information under the LS for details.	Required		
Config	uration on the pub	lic PS			
1	Configure the PS	Refer to Configuring the PS for details.	Required		
Config	Configuration on the private PS				
1	Configure the PS	Refer to Configuring the PS for details.	Required		
Config	Configuration on NAT/FW				
1	Configure NAT/FW	Refer to H3C XE 200/2000 IP PBX Operation Manual for the NAT/FW configuration.	Required		

4.2.11 Configuring Voice RADIUS Accounting

Table 4-23 Configure voice RADIUS accounting

Step	Configuration task	Description	Remarks
1	Enable/disable AAA	Select [System View/Radius Service] in the navigation tree, and • Select the [AAA Start/Stop] in the configuration window to enable AAA. • Clear this check box to disable AAA. Command: aaa enable (system view) undo aaa enable (system view)	Required
2	Configure the sharing access password of the RADIUS accounting server	Select [System View/Radius Service] in the navigation tree, and set the authentication key correctly in the configuration window. Command: radius shared-key (system view)	Required
3	Configure the accounting server	Select [System View/Radius Service] in the navigation tree. Set the IP address correctly in the configuration window. If needed, specify a port for the accounting server in the configuration window. Command: radius server (system view)	Required
4	Delete the accounting server	Select [System View/Radius Service] in the navigation tree. Click <default> in the configuration window. Select [Radius Server] in the [Default Value] window, and then click <ok>. Command: undo radius server (system view)</ok></default>	Optional

Step	Configuration task	Description	Remarks
		Select [System View/Location Server/Office Group/the office group to be configured/Office/the office device to be configured] in the navigation tree, and	
5	Enable/disable accounting for an office device	 Select [ACCT Switch] in the configuration window to enable accounting for the specified office device. 	Optional
		 Clear this check box to disable accounting for the specified office device. 	
		Command: acct (LS-OFFICEGROUP-OFFICE view)	

Chapter 5 Call Service Configuration

5.1 Call Service Overview

Table 5-1 Basic configurations of the XE IP PBX

Step	Configuration task	Description	Remarks
_	Configure the subscriber management service	Refer to <u>Subscriber</u> <u>Management Service</u> for details.	Optional
_	Configure the emergency call service	Refer to Emergency Call Service for details.	Optional
_	Configure the call limit group service	Refer to <u>Call Limit Group</u> <u>Service</u> for details.	Optional
_	Configure the outgoing call authority control service	Refer to Outgoing Call Authority Control Service for details.	Optional
_	Configure the abbreviated dialing service	Refer to Abbreviated Dialing Service for details.	Optional
_	Configure the do-not-disturb service	Refer to <u>Do-Not-Disturb</u> <u>Service</u> for details.	Optional
_	Configure the calling line identification control services	Refer to Calling Line Identification Control Services for details.	Optional
_	Configure the password call service	Refer to Password Call Service for details.	Optional
_	Configure the call forwarding services	Refer to <u>Call Forwarding</u> <u>Services</u> for details.	Optional
_	Configure the third party call termination service	Refer to Third Party Call Termination Service for details.	Optional
_	Configure the ONLY service	Refer to ONLY Service for details.	Optional
_	Configure the time limit call service	Refer to Time Limit Call Service for details.	Optional
_	Configure the third party call control service	Refer to Third Party Call Control Service for details.	Optional
_	Configure the callback-on-busy service	Refer to Callback-On-Busy Service for details.	Optional

Step	Configuration task	Description	Remarks
_	Configure the call pickup service	Refer to <u>Call Pickup</u> <u>Service</u> for details.	Optional
_	Configure the call intervention service	Refer to <u>Call Intervention</u> <u>Service</u> " for details.	Optional
_	Configure the dialing test service	Refer to Dialing Test Service for details.	Optional
_	Configure the time announcement service	Refer to <u>Time</u> <u>Announcement Service</u> for details.	Optional
_	Configure the MyRing service	Refer to MyRing Service for details.	Optional
_	Configure the CPCP service	Refer to <u>CPCP Service</u> for details.	Optional
_	Configure the automatic operator service	Refer to <u>Automatic</u> <u>Operator Service</u> for details.	Optional
_	Configure the group notification service	Refer to <u>Group Notification</u> <u>Service</u> for details.	Optional
_	Configure the call transfer service	Refer to <u>Call Transfer</u> <u>Service</u> for details.	Optional
_	Configure the number query service	Refer to Number Query Service for details.	Optional
	Configure the alarm clock service	Refer to Alarm Clock Service for details.	Optional

5.2 Subscriber Management Service

5.2.1 Introduction to Subscriber Management Service

The subscriber management service is used to manage subscribers and set call rights, including normal, forbid, callout and callin, for subscribers.

5.2.2 Configuring the Subscriber Status

Table 5-2 Configure the subscriber status

Step	Configuration task	Description	Remarks	
_	Configure subscriber status	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured] in the navigation tree. Set the subscriber status in the configuration window. Command: subscriber-status (subscriber management service)	Required	
_	Configure other call services	Refer to Call Service Overview.	Optional	
Return	Return to XE IP PBX Configuration Overview.			

5.3 Emergency Call Service

5.3.1 Introduction to Emergency Call Service

The emergency call service enables subscribers to call emergency numbers, namely, some well-known special numbers that the administrator configured on the XE IP PBX without limitation in emergency situations.

5.3.2 Configuring Emergency Call Numbers

Table 5-3 Configure emergency call numbers

Step	Configuration task	Description	Remarks
_	Add one or more emergency call numbers	Select [System View/Location Server/Emergency Call/Emergency Number Table] in the navigation tree. Click <add> in the configuration window to bring up the [Add List Item] dialog box. Set the number to be added and click <ok>. You can click <add> in the [Add List Item] dialog box to batch add emergency call numbers. Command: emergency-call (emergency call view)</add></ok></add>	Required

Step	Configuration task	Description	Remarks		
_	Delete one or more emergency call numbers	Select [System View/Location Server/Emergency Call/Emergency Number Table] in the navigation tree. Select the emergency call number to be deleted and click <delete>. To batch delete numbers, select the desired numbers while pressing and holding <ctrl>, and then click <delete>. Command: undo emergency-call (emergency call view)</delete></ctrl></delete>	Optional		
_	Configure other call services	Refer to Call Service Overview.	Optional		
Return	Return to XE IP PBX Configuration Overview.				

5.4 Call Limit Group Service

5.4.1 Introduction to Call Limit Group Service

The call limit group is a logical concept. The administrator can define different groups and set call limit relationship between them.

Before a subscriber utilizes the call limit service, the administrator specifies the limit group that the subscriber belongs to. During the call setup process, the XE IP PBX decides whether to allow the setup according to the call limit relationship between groups that the caller and callee belong to.

5.4.2 Configuring Call Limit Groups

Table 5-4 Configure call limit groups

Step	Configuration task	Description	Remarks
1	Add one or more call limit groups	Select [System View/Location Server/Call Limit Group/Call Limit Group/Call Limit Group Table] in the navigation tree. Click <add> in the configuration window to bring up the [Add List Item] dialog box. Set the group name and click <ok>. You can click <add> in the [Add List Item] dialog box to batch add call limit groups. Command: limited-group (call limit group view)</add></ok></add>	Required
2	Add one or more call limit relationship items	 Select [System View/Location Server/Call Limit Group/Call Limit Relationship Table] in the navigation tree. Click <add> in the configuration window to bring up the [Add List Item] dialog box.</add> Set values for the [Caller Limited Group] and [Callee Limited Group] text boxes correctly and click <ok>.</ok> You can click <add> in the [Add List Item] dialog box to batch add call limit relationship items.</add> Command: forbid (call limit group view) 	Required
_	Modify the name of a call limit group	 Select [System View/Location Server/Call Limit Group]in the navigation tree. In the configuration window, set [Old Name] to the group name to be modified, and [New Name] to the new name to be applied. Then click <apply>.</apply> Command: change (call limit group view) 	Optional

Step	Configuration task	Description	Remarks
_	Delete one or more call limit groups	Select [System View/Location Server/Call Limit Group/Call Limit Group/Call Limit Group Table] in the navigation tree. Select the call limit group to be deleted in the configuration window and click <delete>. To batch delete groups, select the desired groups while pressing and holding <ctrl>, and then click <delete>. Command: undo limited-group (call limit group view)</delete></ctrl></delete>	Optional
_	Delete one or more call limit relationship items	1) Select [System View/Location Server/Call Limit Group/Call Limit Relationship Table] in the navigation tree. 2) Select the call limit relationship item to be deleted in the configuration window and click <delete>. To batch delete items, select the desired items while pressing and holding <ctrl>, and then click <delete>. Command: undo forbid (call limit group view)</delete></ctrl></delete>	Optional

5.4.3 Configuring Call Limit Group Service

Table 5-5 Configure the call limit group service

Ste	Configuration task	Description	Remarks
1	Add a subscriber to a call limit group	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured] in the navigation tree. Set [Limited Call Group] as the desired group in the configuration window. Command: limited-call-group (call limit group view)	Required

Step	Configuration task	Description	Remarks	
2	Enable/disable the call limit group service for a subscriber	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured] in the navigation tree, and • Select [Group Limited Call] in the configuration window to enable the call limit group service. • Clear this check box to disable the call limit group service. Command: srv-switch group-limited-call (subscriber number view)	Required	
_	Configure other call services	Refer to Call Service Overview.	Optional	
Return to XE IP PBX Configuration Overview.				

5.5 Outgoing Call Authority Control Service

5.5.1 Introduction to Outgoing Call Authority Control Service

By defining subscriber roles, the outgoing call authority control service decides subscribers' rights to make outgoing calls.

5.5.2 Configuring Subscriber Roles

Table 5-6 Configure subscriber roles

Step	Configuration task	Description	Remarks
Subscri	ber number type	configuration	
1	Add one or more subscriber number types	Select [System View/Location Server/Subscriber Type] in the navigation tree. Click <add> in the configuration window to bring up the [Add List Item] dialog box. Set the subscriber type correctly and click <ok>. You can click <add> in the [Add List Item] dialog box to batch add subscriber number types. Command: subscriber-type (LS view)</add></ok></add>	Required

Step	Configuration task	Description	Remarks	
2	Configure one or more regular expressions that match a type	 Select [System View/Location Server/Call Limit Group/Subscriber Type/the subscriber number type to be configured/Type Formula] in the navigation tree. Click <add> in the configuration window to bring up the [Add List Item] dialog box.</add> Set the regular expression correctly and click <ok>.</ok> You can click <add> in the [Add List Item] dialog box to batch add regular expressions.</add> Command: type (subscriber number type view) 	Required	
_	Delete one or more subscriber number types	Select [System View/Location Server/Subscriber Type] in the navigation tree. Select the subscriber number type to be deleted in the configuration window and click <delete>. To batch delete number types, select the desired number types while pressing and holding <ctrl>, and then click <delete>. Command: undo subscriber-type (LS view)</delete></ctrl></delete>	Optional	
_	Delete one or more regular expressions that match a type	1) Select [System View/Location Server/Call Limit Group/Subscriber Type/the subscriber number type to be configured/Type Formula] in the navigation tree. 2) Select the regular expression to be deleted in the configuration window, and click <delete>. To batch delete regular expressions, select the desired regular expressions while pressing and holding <ctrl>, and then click <delete>. Command: undo type (subscriber number type view)</delete></ctrl></delete>	Optional	
Subscri	Subscriber role configuration			

Step	Configuration task	Description	Remarks
1	Add one or more subscriber roles	Select [System View/Location Server/Subscriber Role] in the navigation tree. Click <add> in the configuration window to bring up the [Add List Item] dialog box. Set the role name correctly and click <ok>. You can click <add> in the [Add List Item] dialog box to batch add subscriber roles. Command: subscriber-role (LS view)</add></ok></add>	Required
2	Add one or more subscriber number types that a role can call	 Select [System View/Location Server/Subscriber Role/the subscriber role to be configured/Subscriber Type Table] in the navigation tree. Click <add> in the configuration window to bring up the [Add List Item] dialog box.</add> Set the number type correctly and click <ok>.</ok> You can click <add> in the [Add List Item] dialog box to batch add number types.</add> Command: subscriber-type (subscriber role view) 	Required
_	Delete one or more subscriber roles	Select [System View/Location Server/Subscriber Role] in the navigation tree. Select the subscriber role to be deleted in the configuration window and click <delete>. To batch delete regular expressions, select the desired roles while pressing and holding <ctrl>, and then click <delete>. Command: undo subscriber-role (LS view)</delete></ctrl></delete>	Optional
_	Delete one or more subscriber number types that a role can call	Select [System View/Location Server/Subscriber Role/the subscriber role to be configured/Subscriber Type Table] in the navigation tree. Select the subscriber role to be deleted in the configuration window and click <delete>. To delete batch types, select the desired types while pressing and holding <ctrl>, and then click <delete>. Command: undo subscriber-type (subscriber role view)</delete></ctrl></delete>	Optional

5.5.3 Configuring Outgoing Call Authority Control Service

Table 5-7 Configure the outgoing call authority control service

Step	Configuration task	Description	Remarks		
1	Configure the subscriber role for a subscriber	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured] in the navigation tree. Set the subscriber role correctly in the configuration window. Command: subscriber-role (outgoing call authority control service view)	Required		
2	Enable/disable the outgoing call authority control service for a subscriber	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured] in the navigation tree, and • Select [Call Out Limit] in the configuration window to enable the outgoing call authority control service. • Clear this check box to disable the outgoing call authority control service. Command: srv-switch cba (subscriber number view)	Required		
_	Configure other call services	Refer to Call Service Overview.	Optional		
Return	Return to XE IP PBX Configuration Overview.				

5.6 Abbreviated Dialing Service

5.6.1 Introduction to Abbreviated Dialing Service

The abbreviated dialing service uses two-digit abbreviated numbers to replace specified called numbers for easy dialing. To call a specified number, a subscriber only needs to dial the corresponding two-digit abbreviated number.

5.6.2 Configuring Abbreviated Dialing Service

Table 5-8 Configure the abbreviated dialing service

Step	Configuration task	Description	Remarks	
1	Enable/disable the abbreviated dialing service for a subscriber	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured] in the navigation tree, and • Select [Dial Abbreviation] in the configuration window to enable the abbreviated dialing service. • Clear this check box to disable the abbreviated dialing service. Command: srv-switch adi (subscriber number view)	Required	
_	Configure other call services	Refer to Call Service Overview.	Optional	
Return	Return to XE IP PBX Configuration Overview.			

5.7 Do-Not-Disturb Service

5.7.1 Introduction to Do-Not-Disturb Service

The do-not-disturb service is used to refuse incoming calls temporarily. A subscriber can register for the do-not-disturb service to deny all incoming calls while making outgoing calls freely.

5.7.2 Configuring Do-Not-Disturb Service

Table 5-9 Configure the do-not-disturb service

Step	Configuration task	Description	Remarks
1	Enable/disable the do-not-disturb service for a subscriber	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured] in the navigation tree, and • Select [Enable/Disable Do Not Disturb] in the configuration window to enable the do-not-disturb service. • Clear this check box to disable the do-not-disturb service. Command: srv-switch do-not-disturb (subscriber number view)	Required
2	Configure the do-not-disturb service	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured/Services/Do Not Disturb] in the navigation tree, and Select [Do Not Disturb] in the configuration window to enable the do-not-disturb service. Clear this check box to disable the do-not-disturb service. Command: do-not-disturb (do-not-disturb service view)	Required
_	Configure other call services	Refer to Call Service Overview.	Optional
Return	to XE IP PBX Co	nfiguration Overview.	

5.8 Calling Line Identification Control Services

5.8.1 Introduction to Calling Line Identification Control Services

The calling line identification control services are used to control whether to display the caller's number on the callee's phone set.

The services include:

- Calling line identification presentation (CLIP)
- Calling line identification restriction (CLIR)
- Temporary reservation for CLIP and CLIR

CLIR override

5.8.2 Configuring Calling Line Identification Control Services

Table 5-10 Configure the calling line identification control services

Step	Configuration task	Description	Remarks
_	Enable/disable the CLIP service for a subscriber	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured] in the navigation tree, and • Select [Caller Number Display] in the configuration window to enable the CLIP service. • Clear this check box to disable the CLIP service. Command: srv-switch clip (subscriber number view)	Required
_	Enable/disable the CLIR service for a subscriber	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured] in the navigation tree, and • Select [Restriction Of Caller Number Display] in the configuration window to enable the CLIR service. • Clear this check box to disable the CLIR service. Command: srv-switch clir (subscriber number view)	Required
_	Enable/disable the temporary reservation for CLIP and CLIR service for a subscriber	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured] in the navigation tree, and • Select [Temporary Restriction Of Caller Number Display] in the configuration window to enable the temporary reservation for CLIP and CLIR service. • Clear this check box to disable the temporary reservation for CLIP and CLIR service. Command: srv-switch tcir (subscriber number view)	Required

Step	Configuration task	Description	Remarks
_	Enable/disable the CLIR override service for a subscriber	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured] in the navigation tree, and • Select [Overstep Restriction Of Caller Number Display] in the configuration window to enable the CLIR override service. • Clear this check box to disable the CLIR override service. Command: srv-switch rio (subscriber number view)	Required
_	Configure other call services	Refer to Call Service Overview.	Optional
Return to XE IP PBX Configuration Overview.			

5.9 Password Call Service

5.9.1 Introduction to Password Call Service

To prevent illegal use of telephones, subscribers can set call passwords for their telephones. Anyone who uses such a telephone must type the correct password first.

5.9.2 Configuring Password Call Service

Table 5-11 Configure the password call service

Step	Configuration task	Description	Remarks
1	Enable/disable the password call service for a subscriber	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured] in the navigation tree, and Select [Call with Password] in the configuration window to enable the password call service. Clear this check box to disable the password call service. Command: srv-switch pwd-call (subscriber number view)	Required

Step	Configuration task	Description	Remarks	
2	Configure the call password	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured] in the navigation tree, and Set the call password correctly in the configuration window. Command: pwd-call-password (subscriber number view)	Required	
_	Configure other call services	Refer to Call Service Overview.	Optional	
Return to XE IP PBX Configuration Overview.				

5.10 Call Forwarding Services

5.10.1 Introduction to Call Forwarding Services

With the call forwarding services, the XE IP PBX forwards calls to numbers (not the called number) pre-specified by the callee when specific conditions are satisfied. The forwarding process is invisible to the caller.

Call forwarding can be implemented in the form of the following six services:

- Call forwarding offline (CFO)
- Call forwarding based on the caller number (CFC)
- Call forwarding based on time range (CFT)
- Call forwarding unconditional (CFU)
- Call forwarding on busy (CFB)
- Call forwarding no reply (CFNR)

5.10.2 Configuring CFU Service

Table 5-12 Configure the CFU service

Step	Configuration task	Description	Remarks	
1	Add one or more forward numbers of the CFU service	1) Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured/Services/Unconditional Call Forwarding Table] in the navigation tree. 2) Click <add> in the configuration window to bring up the [Add List Item] dialog box. 3) Set the forward number and click <ok>. To batch add forward numbers, click <add> in the [Add List Item] dialog box and add numbers as desired. Command: cfu-number (CFU view)</add></ok></add>	Required	
2	Enable the CFU service for a subscriber	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured] in the navigation tree, and • Select [Unconditional Call Forwarding] in the configuration window to enable the CFU service. • Clear this check box to disable the CFU service. Command: srv-switch cfu (subscriber number view)	Required	
_	Delete one or more forward numbers of the CFU service	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured/Services/Unconditional Call Forwarding Table] in the navigation tree. Select the forward number to be deleted in the configuration window and click <delete>. To batch delete forward numbers, select the desired numbers while pressing and holding <ctrl>, and then click <delete>. Command: undo cfu-number (CFU view)</delete></ctrl></delete>	Optional	
_	Configure other call services	Refer to Call Service Overview.	Optional	
Return	Return to XE IP PBX Configuration Overview.			

5.10.3 Configuring CFC Service

Table 5-13 Configure the CFC service

Step	Configuration task	Description	Remarks
1	Add one or more number bindings of the CFC service	 Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured/Services/Call Forwarding According To Caller Table] in the navigation tree. Click <add> in the configuration window to bring up the [Add List Item] dialog box.</add> Set the caller number and forward number, and click <ok>.</ok> To batch add number bindings, click <add> in the [Add List Item] dialog box and add bindings as desired.</add> Command: cf-caller (CFC view) 	Required
2	Enable the CFC service for a subscriber	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured] in the navigation tree, and • Select [Call Forwarding According To Caller] in the configuration window to enable the CFC service for the subscriber. • Clear this check box to disable the CFC service for the subscriber Command: srv-switch cf-caller (subscriber number view)	Required
_	Delete one or more number bindings of the CFC service	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured/Services/Call Forwarding According To Caller Table] in the navigation tree. Select the number binding to be deleted in the configuration window and click <delete>. To batch delete number bindings, select the desired bindings while pressing and holding <ctrl>, and then click <delete>. Command: undo cf-caller (CFC view)</delete></ctrl></delete>	Optional
_	Configure other call services	Refer to Call Service Overview.	Optional

Step	Configuration task	Description	Remarks		
Return	Return to XE IP PBX Configuration Overview.				

5.10.4 Configuring CFT Service

Table 5-14 Configure the CFT service

Step	Configuration task	Description	Remarks
1	Add one or more number bindings of the CFT service	 Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured/Services/Call Forwarding According To Time Table] in the navigation tree. Click <add> in the configuration window to bring up the [Add List Item] dialog box.</add> Set the begin time, end time and forward number, and click <ok>.</ok> To batch add number bindings, click <add> in the [Add List Item] dialog box and add bindings as desired.</add> Command: cft (CFT view) 	Required
2	Enable the CFT service for a subscriber	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured] in the navigation tree, and • Select [Call Forwarding According To Time] in the configuration window to enable the CFT service for the subscriber • Clear this check box to disable the CFT service for the subscriber. Command: srv-switch cft (subscriber number view)	Required

Step	Configuration task	Description	Remarks	
_	Delete one or more number bindings of the CFT service	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured/Services/Call Forwarding According To Time Table] in the navigation tree. Select the number binding to be deleted in the configuration window and click <delete>. To batch delete number bindings, select the desired bindings while pressing and holding <ctrl>, and then click <delete>. Command: undo cft (CFT view)</delete></ctrl></delete>	Optional	
_	Configure other call services	Refer to Call Service Overview.	Optional	
Return	Return to XE IP PBX Configuration Overview.			

5.10.5 Configuring CFO Service

Table 5-15 Configure the CFO service

Step	Configuration task	Description	Remarks
1	Add one or more forward numbers of the CFO service	1) Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured/Services/Call Forwarding If Offline Table] in the navigation tree. 2) Click <add> in the configuration window to bring up the [Add List Item] dialog box. 3) Set the forward number and click <ok>. To batch add forward numbers, click <add> in the [Add List Item] dialog box and add numbers as desired. Command: cfo-number (CFO view)</add></ok></add>	Required

Step	Configuration task	Description	Remarks		
2	Enable the CFO service for a subscriber	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured] in the navigation tree, and Select [Call Forwarding If Offline] in the configuration window to enable the CFO service for the subscriber. Clear this check box to disable the CFO service for the subscriber. Command: srv-switch cfo (subscriber number view)	Required		
_	Delete one or more forward numbers of the CFO service	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured/Services/Call Forwarding If Offline Table] in the navigation tree. Select the forward number to be deleted in the configuration window and click <delete>. To batch delete forward numbers, select the desired numbers while pressing and holding <ctrl>, and then click <delete>. Command: undo cfo-number (CFO view)</delete></ctrl></delete>	Optional		
_	Configure other call services	Refer to Call Service Overview.	Optional		
Return	Return to XE IP PBX Configuration Overview.				

5.10.6 Configuring CFB Service

Table 5-16 Configure the CFB service

Step	Configuration task	Description	Remarks	
1	Add one or more number bindings of the CFB service	 Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured/Services/Call Forwarding If Busy Table] in the navigation tree. Click <add> in the configuration window to bring up the [Add List Item] dialog box.</add> Set the forward number and click <ok>.</ok> To batch add forward numbers, click <add> in the [Add List Item] dialog box and add numbers as desired.</add> Command: cfb-number (CFB view) 	Required	
2	Enable the CFB service for a subscriber	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured] in the navigation tree, and • Select [Call Forwarding If Busy] in the configuration window to enable the CFB service for the subscriber. • Clear this check box to disable the CFB service for the subscriber. Command: srv-switch cfb (subscriber number view)	Required	
_	Delete one or more forward numbers of the CFB service	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured/Services/Call Forwarding If Busy Table] in the navigation tree. Select the forward number to be deleted in the configuration window and click <delete>. To batch delete forward numbers, select the desired numbers while pressing and holding <ctrl>, and then click <delete>. Command: undo cfb-number (CFB view)</delete></ctrl></delete>	Optional	
_	Configure other call services	Refer to Call Service Overview.	Optional	
Return	Return to XE IP PBX Configuration Overview.			

5.10.7 Configuring CFNR Service

Table 5-17 Configure the CFNR service

Step	Configuration task	Description	Remarks
1	Add one or more number bindings of the CFNR service	 Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured/Services/Call Forwarding If No Response Table] in the navigation tree. Click <add> in the configuration window to bring up the [Add List Item] dialog box.</add> Set the forward number and click <ok>.</ok> To batch add forward numbers, click <add> in the [Add List Item] dialog box and add numbers as desired.</add> Command: cfnr-number (CFNR view) 	Required
2	Enable the CFNR service for a subscriber	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured] in the navigation tree, and • Select [Call Forwarding If No Response] in the configuration window to enable the CFNR service for the subscriber. • Clear this check box to disable the CFNR service for the subscriber. Command: srv-switch cfnr (subscriber number view)	Required
_	Delete one or more forward numbers of the CFNR service	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured/Services/Call Forwarding If No Response Table] in the navigation tree. Select the forward number to be deleted in the configuration window and click <delete>. To batch delete forward numbers, select the desired numbers while pressing and holding <ctrl>, and then click <delete>. Command: undo cfnr-number (CFNR view)</delete></ctrl></delete>	Optional

Step	Configuration task	Description	Remarks
_	Configure other call services	Refer to Call Service Overview.	Optional
Return to XE IP PBX Configuration Overview.			

5.11 Third Party Call Termination Service

5.11.1 Introduction to Third Party Call Termination Service

The third party call termination service is used to stop ongoing calls forcibly. It can only be executed by the administrator.

5.11.2 Using Third Party Call Termination Service

Table 5-18 Using the third party call termination service

Step	Configuration task	Description	Remarks
1	Display all ongoing calls	 Select [System View/Location Server/Call List] in the navigation tree. Click <refresh> in the configuration window.</refresh> Command: display location-server call-list (any view) 	Required
2	Terminate an ongoing call forcibly	Select [System View/Location Server/Call List] in the navigation tree. Select the call to be terminated and click <delete> in the configuration window. Command: break (LS view)</delete>	Required
_	Query calls by specified conditions	 Select [System View/Location Server/Call List] in the navigation tree. Select [Conditional Query] in the configuration window. Set the query conditions as desired and click <query>.</query> The query conditions include: [Caller] and [Callee] check boxes. You can select none, either or both of them and set the corresponding values. The Query In This Page and Query From the Device options. You need to select one of them. 	Optional

Step	Configuration task	Description	Remarks
_	Configure other call services	Refer to Call Service Overview.	Optional
Return to XE IP PBX Configuration Overview.			

5.12 ONLY Service

5.12.1 Introduction to ONLY Service

The one number link you (ONLY) service can be used to assign an ID, which uniquely identifies a user. Some or all of the user's numbers can be bound to the user ID. When a call is made to the user ID, telephones of all numbers bound to the ID will ring. The user can pick up any phone to start the conversation, and other phones stop ringing at the same time.

5.12.2 Configuring ONLY Service

Table 5-19 Configure the ONLY service

Step	Configuration task	Description	Remarks
1	Add a user ID	 Select [System View/Location Server/ONLY Service] in the navigation tree. Click <add> in the configuration window to bring up the [Add List Item] dialog box.</add> Set the user ID and click <ok>.</ok> To batch add subscriber IDs, click <add> in the [Add List Item] dialog box and add IDs as desired.</add> Command: only (LS view) 	Required
2	Bind one or more telephone numbers to a user ID	 Select [System View/Location Server/ONLY Service/the user ID to be configured/User Number Table] in the navigation tree. Click <add> in the configuration window to bring up the [Add List Item] dialog box.</add> Set the desired telephone number and click <ok>.</ok> To batch bind telephone numbers to the user ID, click <add> in the [Add List Item] dialog box and add numbers as desired.</add> Command: tel-number (ONLY service view) 	Required

Step	Configuration task	Description	Remarks		
_	Delete one or more telephone numbers bound to a user ID	Select [System View/Location Server/ONLY Service/the user ID to be configured/User Number Table] in the navigation tree. Select the telephone number to be deleted in the configuration window and click <delete>. To batch delete telephone numbers bound to the user ID, select the desired numbers while pressing and holding <ctrl>, and then click <delete>. Command: undo tel-number (ONLY service view)</delete></ctrl></delete>	Optional		
_	Delete one or more user IDs	Select [System View/Location Server/ONLY Service] in the navigation tree. Select the user ID to be deleted in the configuration window and click <delete>. To batch delete user IDs, select the desired IDs while pressing and holding <ctrl>, and then click <delete>. Command: undo only (LS view)</delete></ctrl></delete>	Optional		
_	Configure other call services	Refer to Call Service Overview.	Optional		
Return	Return to XE IP PBX Configuration Overview.				

5.13 Time Limit Call Service

5.13.1 Introduction to Time Limit Call Service

The time limit call service is used to control the call duration within a specific period. If the time limit call service is enabled for a subscriber, all calls that this subscriber makes cannot exceed the time limit; otherwise the call will be terminated automatically. The call duration is determined by the service settings on both the caller and callee sides.

5.13.2 Configuring Time Limit Call Service

Table 5-20 Configure the time limit call service

Step	Configuration task	Description	Remarks
1	Enable/disable the time limit call service for a subscriber	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured] in the navigation tree, and • Select [Call With Time Limit] in the configuration window to enable the time limit call service for the subscriber. • Clear this check box to disable the time limit call service for the subscriber. Command: srv-switch limited-time-call (subscriber number view)	Required
2	Configure the time limit of the limited calls	1) Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured] in the navigation tree. 2) Set the time limit in the [The Max Time Of Limited Call] text box in the configuration window. Command: limited-call-time (time limit call service view)	Required
_	Configure the default time limit of limited calls	 Select [System View/Location Server] in the navigation tree. Set the default time limit in the [Default Time Of Limited Call] text box in the configuration window. Command: default-limit-call-time (LS view) 	Optional
_	Configure other call services	Refer to Call Service Overview.	Optional
Return to XE IP PBX Configuration Overview.			

5.14 Third Party Call Control Service

5.14.1 Introduction to Third Party Call Control Service

A third party, usually an administrator that has the corresponding authority, can preset a call task on the XE IP PBX. The XE IP PBX will then invite the call participants (A and B) to join the call at the preset time and to have a conversation. Two participants, namely, parties A and B, are supported by the third party call control service.

5.14.2 Configuring Third Party Call Control Service

Table 5-21 Configure the third party call control service

Step	Configuration task	Description	Remarks		
	Add a third party call control task	 Select [System View/Location Server/Service/Third Party Control Call] in the navigation tree. Click <add> in the configuration window to bring up the [Add List Item] dialog box.</add> Set values for the task ID, number 1, number 2 and time, and then click <ok>.</ok> To set the call time, you can Select [Absolute Time] and set the XE system date and system time in the [XE System Date] and [XE System Time] spin boxes respectively. Select [Relative Time] and set the time in the [Minute] text box. To batch add third party call control tasks, click <add> in the [Add List Item] dialog box and add tasks as desired.</add> Command: participant (third party call control service view) 	Required		
_	Configure other call services	Refer to Call Service Overview.	Optional		
Return	Return to XE IP PBX Configuration Overview.				

5.15 Callback-On-Busy Service

5.15.1 Introduction to Callback-On–Busy Service

When a subscriber using the callback-on-busy service fails to make a call because the callee is busy, the XE IP PBX records the call request and then initiates the call again after a certain interval.

A subscriber using the callback-on-busy service cannot register the do-not-disturb or call forwarding services. Only one callee is supported by the callback-on-busy service.

5.15.2 Configuring Callback-On-Busy

Table 5-22 Configure the callback-on-busy service

Step	Configuration task	Description	Remarks	
1	Enable/disable the callback-on-busy service for a subscriber	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured] in the navigation tree, and • Select [Call Back] in the configuration window to enable the callback-on-busy service for the subscriber. • Clear this check box to disable the callback-on-busy service for the subscriber. Command: srv-switch cb (subscriber number view)	Required	
_	Configure the call back interval	Select [System View/Location Server/Service/Call Back] in the navigation tree. Set the call back interval in the [Interval] text box in the configuration window. The call back interval is counted in minutes. Command: interval (call back view)	Optional	
_	Configure the call back retry times	Select [System View/Location Server/Service/Call Back] in the navigation tree. Set the call back retry times in the [Retry Times] text box in the configuration window. Command: retry (call back view)	Optional	
_	Configure other call services	Refer to Call Service Overview.	Optional	
Return to XE IP PBX Configuration Overview.				

5.16 Call Pickup Service

5.16.1 Introduction to Call Pickup Service

When subscriber A calls subscriber B, whose phone then rings, subscriber C using the call pickup service can answer the call by dialing the access code and subscriber B's phone number. In this way, subscriber C can have a conversation with subscriber A. In

brief, the call pickup service enables a subscriber to answer an incoming call to another subscriber.

5.16.2 Configuring Call Pickup Service

Table 5-23 Configure the call pickup service

Step	Configuration task	Description	Remarks	
1	Enable/disable the call pickup service for a subscriber	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured] in the navigation tree, and • Select [Call Pickup] in the configuration window to enable the call pickup service for the subscriber. • Clear this check box to disable the call pickup service for the subscriber. Command: srv-switch cp (subscriber number view)	Required	
_	Configure other call services	Refer to Call Service Overview.	Optional	
Return	Return to XE IP PBX Configuration Overview.			

5.17 Call Intervention Service

5.17.1 Introduction to Call Intervention Service

Using the call intervention service, a subscriber can intervene into an ongoing call by dialing the access code and the phone number of the caller/callee. Before exiting the call, the intervening subscriber can choose to restore or terminate the original call connection.

5.17.2 Configuring Call Intervention Service

Table 5-24 Configure the call intervention service

Step	Configuration task	Description	Remarks
1	Enable/disable the call intervention service	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured] in the navigation tree, and • Select [Call Intervene] in the configuration window to enable the intervention service for the subscriber. • Clear this check box to disable the intervention service for the subscriber. Command: srv-switch ci (subscriber number view)	Required
_	Configure other call services	Refer to Call Service Overview.	Optional
Return to XE IP PBX Configuration Overview.			

5.18 Dialing Test Service

5.18.1 Introduction to Dialing Test Service

The dialing test service is a special service for administrators only. It tests the line status and validity of subscriber numbers configured on the LS, so that the administrator can evaluate the network conditions.

5.18.2 Configuring Dialing Test Service

Table 5-25 The dialing test procedure

Step	Configuration task	Description	Remarks
1	Make a dialing test	 Select [System View/Location Server/Service/Dial Test] in the navigation tree. Set the number to be tested in the [Dial Test (Not A Config Item)] text box in the configuration window and click <apply>.</apply> Command: dial-test (LS-SRV view) 	Required

Step	Configuration task	Description	Remarks
_	Configure other call services	Refer to Call Service Overview.	Optional
Return to XE IP PBX Configuration Overview.			

5.19 Time Announcement Service

5.19.1 Introduction to Time Announcement Service

With the time announcement service, a subscriber can dial the access number to the XE IP PBX to query the current time. The time presented by the XE IP PBX is its current system time.

5.19.2 Configuring Time Announcement Service

Table 5-26 Configure the time announcement service

Step	Configuration task	Description	Remarks
1	Enable/disable the time announcement service for a subscriber	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured] in the navigation tree, and • Select [Announce Time] in the configuration window to enable the time announcement service for the subscriber. • Clear this check box to disable the time announcement service for the subscriber. Command: srv-switch announce (subscriber number view)	Required
_	Configure other call services	Refer to Call Service Overview.	Optional
Return to XE IP PBX Configuration Overview.			

5.20 MyRing Service

5.20.1 Introduction to MyRing Service

The MyRing service is use to set customized ringback tone for a subscriber, so that when the subscriber is called, the caller will hear the customized ringback tone.

You can divide callers into different caller groups and assign different customized ringback tones to subscribers in different caller groups. Callers in different groups will hear different ringback tones when calling a MyRing-enabled subscriber. When a subscriber in none of the defined caller groups calls the MyRing-enabled subscriber, the caller hears the default customized ringback tone set by the callee.

5.20.2 Configuring MyRing Service

Table 5-27 Configure the MyRing service

Step	Configuration task	Description	Remarks
1	Enable/disable the MyRing service for a subscriber	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured] in the navigation tree, and • Select [My Ring] in the configuration window to enable the MyRing service for the subscriber. • Clear this check box to disable the MyRing service for the subscriber. Command: srv-switch miring (subscriber number view)	Required
2	Configure the default customized ringback tone for a subscriber	 Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured/Services/My Ring] in the navigation tree. Specify a valid media ID in the [Default Ring] text box in the configuration window. Command: default-ring (MyRing view) 	Required
	Create a caller group	1) Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured/Services/My Ring/Caller Group] in the navigation tree. 2) Click <add> in the configuration window to bring up the [Add List Item] dialog box. 3) Set the group name and click <ok>. To batch add caller groups, click <add> in the [Add List Item] dialog box and add caller groups as desired. Command: caller-group (MyRing view)</add></ok></add>	Optional

Step	Configuration task	Description	Remarks	
	Configure the customized ringback tone for a caller group	 Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured/Services/My Ring/Caller Group/the caller group to be configured] in the navigation tree. Specify an existing media ID in the [Ring] text box in the configuration window. 	Optional	
		Command: ring (caller group view)		
	Add one or more numbers into a caller group	 Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured/Services/My Ring/Caller Group/the caller group to be configured/Members of the group] in the navigation tree. Click <add> in the configuration window to bring up the [Add List Item] dialog box.</add> Set the number and click <ok>.</ok> To batch add numbers, click <add> in the [Add List Item] dialog box and add numbers as desired.</add> Command: caller-member (caller group view) 	Optional	
_	Configure other call services	Refer to Call Service Overview.	Optional	
Return	Return to XE IP PBX Configuration Overview.			

5.21 CPCP Service

5.21.1 Introduction to CPCP Service

During an ongoing call, one party using the call park/call pickup (CPCP) service can temporarily suspend the call by hanging up the phone. The other party can hold the phone and listens to the music on hold until the CPCP-initiating subscriber restores the call by dialing the connection code.

5.21.2 Configuring CPCP Service

Table 5-28 Configure the CPCP service

Step	Configuration task	Description	Remarks	
1	Enable/disable the CPCP service for a subscriber	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured] in the navigation tree, and Select [Call Park and Call Pickup] in the configuration window to enable the CPCP service for the subscriber. Clear this check box to disable the CPCP service for the subscriber. Command: srv-switch cpcp (subscriber number view)	Required	
_	Configure the lead character for the XE IP PBX	Select [System View/Location Server/Service] in the navigation tree. Specify the lead character in the configuration window and click <apply>. Command: leader-character (LS-SRV view)</apply>	Optional	
_	Configure the lead character timeout	Select [System View/Location Server/Service] in the navigation tree. Specify the lead character timeout in the [Match Time] text box in the configuration window and click <apply>. Command: match-time (LS-SRV view)</apply>	Optional	
_	Configure other call services	Refer to Call Service Overview.	Optional	
Return	Return to XE IP PBX Configuration Overview.			

5.22 Automatic Operator Service

5.22.1 Introduction to Automatic Operator Service

The automatic operator service enables a subscriber to perform two-stage dialing as needed. After dialing the access code and establishing a call connection with the XE IP PBX, the subscriber receives a voice prompt from the XE IP PBX. Then the subscriber can establish a call connection with the callee, who can provide related service.

5.22.2 Configuring Automatic Operator Service

Table 5-29 Configure the automatic operator service

Step	Configuration task	Description	Remarks	
1	Configure the automatic operator number	 Select [System View/Location Server/Service/Auto Operator] in the navigation tree. Click <add> in the configuration window to bring up the [Add List Item] dialog box.</add> Set the auto operator number and click <ok>.</ok> Command: auto-operator (LS-SRV view) 	Required	
2	Configure the voice prompt for the automatic operator service	Select [System View/Location Server/Service/Auto Operator/the automatic operator number to be configured] in the navigation tree. Specify a valid media ID in the [Prompt Voice] text box in the configuration window and click <apply>. Command: prompt (LS-SRV-AO view)</apply>	Required	
3	Configure one or more operation code/phone number bindings	 Select [System View/Location Server/Service/Auto Operator/the automatic operator number to be configured/Extension] in the navigation tree. Click <add> in the configuration window to bring up the [Add List Item] dialog box.</add> Set the phone number and extension number, and then click <ok>.</ok> To batch add bindings, click <add> in the [Add List Item] dialog box and add bindings as desired.</add> Command: extension (S-SRV-AO view) 	Required	
_	Configure other call services	Refer to Call Service Overview.	Optional	
Return	Return to XE IP PBX Configuration Overview.			

5.23 Group Notification Service

5.23.1 Introduction to Group Notification Service

As a group-oriented phone broadcast notification service, the group notification service sends notification to all members in a group by phone calls. The XE IP PBX implements the group notification service through voice notification played locally or remotely.

I. Local group notification service

The administrator defines a local group notification task.

When the preset time comes, the XE IP PBX will automatically initiate a call to all subscribers in the specified group. The called subscribers can pick up their phones and listen to the notification played by the XE IP PBX.

To define a task, the administrator needs to specify the following parameters:

- Media file that the task plays.
- Time when the notification is sent.
- Receiver group of the notification.
- Access code that receivers use to hear the notification.
- Interval at which the notification is sent again if it fails.

Subscribers that miss the notification can dial the access code to listen to the notification after the task is executed.

II. Remote group notification service

The administrator defines a remote group notification task. When the task is started, the notification deliverer can dial the access code to invite all receivers in the specified group to receive the notification. After any receiver picks up the phone, the deliverer can start sending the notification.

To define a task, the administrator needs to specify the following parameters:

- Receiver group of the notification.
- Access code that the deliverer uses to send the notification.
- Access code that receivers use to hear the notification.
- Interval at which the notification is sent again if it fails.

When the notification is played, phones that are not picked up will keep ringing. The corresponding subscribers can pick up the phone to listen to the playing notification.

After hanging up when listening to the notification, a subscriber can resume notification-listening by dialing the access code.

However, after the deliverer hangs up, all receivers stop receiving the notification and none of them can listen to it again by dialing the access code.

5.23.2 Configuring Group Notification Service

Table 5-30 Configure the group notification service

Step	Configuration task	Description	Remarks		
Receive	Receiver group configuration				
1	Create one or more receiver groups	Select [System View/Location Server/Service/Group Notify/Notify Group] in the navigation tree. Click <add> in the configuration window to bring up the [Add List Item] dialog box. Set the group ID and click <ok>. To batch add receiver groups, click <add> in the [Add List Item] dialog box and add groups as desired. Command: group-config (group-notify view)</add></ok></add>	Required		
2	Add one or more numbers into a receiver group	1) Select [System View/Location Server/Service/Group Notify/Notify Group/the group to be configured/Members Of The Group] in the navigation tree. 2) Click <add> in the configuration window to bring up the [Add List Item] dialog box. 3) Set the number and click <ok>. To batch add numbers, click <add> in the [Add List Item] dialog box and add numbers as desired. Command: member (group-config view)</add></ok></add>	Required		
Group r	notification config	uration			
1	Create one or more group notifications	 Select [System View/Location Server/Service/Group Notify/Notify Config] in the navigation tree. Click <add> in the configuration window to bring up the [Add List Item] dialog box.</add> Set the notification ID and click <ok>.</ok> To batch add group notifications, click <add [add="" add="" and="" as="" box="" desired.<="" dialog="" in="" item]="" li="" list="" notifications="" the=""> Command: notify-config (group-notify view) </add>	Required		
2	Configure the local group notification service and specify the media file to be played in a task	Select [System View/Location Server/Service/Group Notify/Notify Config/the notification task to be configured] in the navigation tree. In the configuration window, select the Local option under [Mode]. Specify the media ID of the media file to be played. Command: config local (notify-config view)	Required		

Step	Configuration task	Description	Remarks	
3	Configure the local group notification service and specify the access code that the deliverer uses to send the notification	Select [System View/Location Server/Service/Group Notify/Notify Config/the notification task to be configured] in the navigation tree. In the configuration window, select the Remote option under [Mode]. Specify the access code in the [Caller Access Number] text box. Command: config remote (notify-config view)	Required	
4	Configure the local group notification service and specify the access code that receivers use to hear the notification	Select [System View/Location Server/Service/Group Notify/Notify Config/the notification task to be configured] in the navigation tree. In the configuration window, specify the access code in the [Callee Access Number] text box. Command: config (notify-config view)	Required	
5	Configure the notification resending interval	Select [System View/Location Server/Service/Group Notify/Notify Config/the notification task to be configured] in the navigation tree. In the configuration window, specify the interval in the [Interval Of Notify Callee] text box. Command: config (notify-config view)	Required	
6	Configure one or more receiver groups of a notification task	1) Select [System View/Location Server/Service/Group Notify/Notify Config/the notification task to be configured/Group In The Notify] in the navigation tree. 2) Click <add> in the configuration window to bring up the [Add List Item] dialog box. 3) Set the group ID and click <ok>. To batch add receiver groups, click <add> in the [Add List Item] dialog box and add groups as desired. Command: join (notify-config view)</add></ok></add>	Required	
Group r	Group notification activation			

Step	Configuration task	Description	Remarks	
	Activate a local group notification task	 Select [System View/Location Server/Service/Group Notify/Started Notify] in the navigation tree. Click <add> in the configuration window to bring up the [Add List Item] dialog box.</add> Select the Local option under [Start]. Set the desired notification ID in the [Notify ID] text box. Under [Time], set the notification sending time in any of the following ways: Select [Specified Date Time] and specify the date and time in the [XE System Date] and [XE System Time] spin boxes respectively. Select [Specified Time] and set the time in the [XE System Time] spin box. To control the notification playing duration, select [Duration Time] under the Local option and specify the duration as desired. Command: start (group-notify view) 	Required	
_	Activate a remote group notification task	 Select [System View/Location Server/Service/Group Notify/Started Notify] in the navigation tree. Click <add> in the configuration window to bring up the [Add List Item] dialog box.</add> Select the Remote option under [Start]. Set the desired notification ID in the [Notify ID] text box. Command: start (group-notify view) 	Required	
_	Configure other call services	Refer to Call Service Overview.	Optional	
Return	Return to XE IP PBX Configuration Overview.			

5.24 Call Transfer Service

5.24.1 Introduction to Call Transfer Service

When a call is going on, either party having the call transfer right can transfer the call to a specified third party, so that a new call is set up between the third party and the other party of the original call. The party who initiated the call transfer exits the call. The phone of the third party rings, and the third party can start a conversation with the other party of the original call by picking up the phone.

5.24.2 Configuring Call Transfer Service

Table 5-31 Configure the call transfer service

Step	Configuration task	Description	Remarks	
1	Enable/disable the call transfer service for a subscriber	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured] in the navigation tree, and • Select [Call Transfer] in the configuration window to enable the call transfer service for the subscriber. • Clear this check box to disable the call transfer service for the subscriber. Command: srv-switch ct (subscriber number view)	Required	
_	Configure the lead character for the XE IP PBX	Select [System View/Location Server/Service] in the navigation tree. Specify the lead character in the configuration window and click <apply>. Command: leader-character (LS-SRV view)</apply>	Optional	
_	Configure the lead character timeout	Select [System View/Location Server/Service] in the navigation tree. Specify the lead character timeout in the [Match Time] text box in the configuration window and click <apply>. Command: match-time (LS-SRV view)</apply>	Optional	
_	Configure other call services	Refer to Call Service Overview.	Optional	
Return	Return to XE IP PBX Configuration Overview.			

5.25 Number Query Service

5.25.1 Introduction to Number Query Service

With the number query service, a subscriber can dial the corresponding access code to query its own number.

5.25.2 Configuring Number Query Service

Table 5-32 Configure the number query service

Step	Configuration task	Description	Remarks	
1	Enable/disable the number query service for a subscriber	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured] in the navigation tree, and • Select [Self Number Query] in the configuration window to enable the number query service for the subscriber. • Clear this check box to disable the number query service for the subscriber. Command: srv-switch query-self (subscriber number view)	Required	
_	Configure other call services	Refer to Call Service Overview.	Optional	
Return	Return to XE IP PBX Configuration Overview.			

5.26 Alarm Clock Service

5.26.1 Introduction to Alarm Clock Service

With the alarm clock service enabled, a subscriber can set an alarm clock task so that the XE IP PBX calls the subscriber at the specified time.

Each subscriber can set one alarm clock task at most.

The alarm clock task falls into two types: one-off alarm and cyclic alarm:

- Once: The alarm clock goes off only once. The subscriber needs to specify the alarm date and time. The date defaults to the current day if not specified. The specified time must be later than the current system time.
- Cycle: This type of alarm clock goes off once every day. When setting the alarm clock service, the subscriber need to set only the time, at which the alarm clock goes off every day.

5.26.2 Configuring Alarm Clock Service

Table 5-33 Configure the alarm clock service

Step	Configuratio n task	Description	Remarks
1	Enable/disabl e the alarm clock service for a subscriber	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured] in the navigation tree, and Select [Alarm] in the configuration window to enable the CPCP service for the subscriber. Clear this check box to disable the CPCP service for the subscriber. Command: srv-switch alarm (subscriber number view)	Required
_	Configure a one-off alarm clock task by specifying the date and time	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured/Services/Alarm] in the navigation tree. Select [Specified Date] in the configuration window. Specify the date and time in the [XE System Date] and [XE System Time] spin boxes respectively. Command: alarm (alarm clock view)	Required
	Configure a one-off or cyclic alarm clock task by specifying the time only	1) Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured/Services/Alarm] in the navigation tree. 2) Select [No Specified Date] in the configuration window. 3) Specify the alarm time in the [XE System Time] spin box and specify the alarm clock type as follows: Select [Once (Today)] to set a one-off alarm clock task. Select [Cycle] to set a cyclic alarm clock task. Command: alarm (alarm clock view)	Required

Step	Configuratio n task	Description	Remarks
_	Configure other call services	Refer to <u>Call Service Overview</u> .	Optional
Return to XE IP PBX Configuration Overview.			

Chapter 6 System Management

6.1 User Management

6.1.1 User Account Levels

GUI of the XE IP PBX enables Web-based configuration and management by dividing users into levels, each with different rights. Three user levels are provided:

- Super administrator
- Normal administrator
- Normal user

The super administrator enjoys the higher level, and the normal user has the lowest authorities.

The GUI displayed varies with the user level, as shown in Table 6-1.

Table 6-1 Difference between interfaces for different user levels

User level	Tabs available in the device management window
Super administrator	[Configuration] [Device Status] [Statistics] [Account Management] [Backup/Recovery] [Change Password] [Save On Device] [Telnet]
Normal administrator	[Configuration] [Device Status] [Statistics] [Change Password] [Save On Device] [Telnet]
Normal user	[Configuration] [Change Password]

6.1.2 Naming Rule and Rights for Users

Table 6-2 Naming rule and rights for users

User level	Naming rule	Available operations
Super administrator	The username is assigned by the super administrator. The default username and password for the super administrator are XEAdmin and 8888888 respectively.	 Account management, including adding, modifying and deleting administrator accounts. Control on normal administrators' rights, including setting the operation rights of normal administrators on the XE IP PBX and commands. System configuration and network configuration. Device configuration, function configuration and service configuration on the XE IP PBX.
Normal administrator	The username is assigned by the super administrator.	 System configuration and network configuration. Device configuration, function configuration and service configuration specified by the super administrator.
Normal user	The username is unchangeable and is in form of: Name of the gateway where the subscriber is located + - + short number (excluded with #) + - + long number	 Query of one's own configurations. Service configuration of one's own.

☐ Note:

The username of super administrators and normal administrators cannot contain space and dash "-".

6.1.3 Account Management by the Super Administrator

The super administrator can click [Account Management] in the device management window to display the [Log On Management] dialog box, as shown in <u>Figure 6-1</u>.

The GUI server supports up to 40 GUI client administrator accounts. The [Account Info] list displays usernames, rights and IP addresses of users. IP address "N/A" indicates the corresponding user is offline.

Numbers of user accounts allowed to manage the XE 200/2000 through the GUI client concurrently are listed in <u>Table 6-3</u>.

Table 6-3 Numbers of user accounts allowed to manage the XE 200/2000 concurrently

XE 200	XE 2000
25 (included with up to five administrators)	210 (included with up to ten administrators)

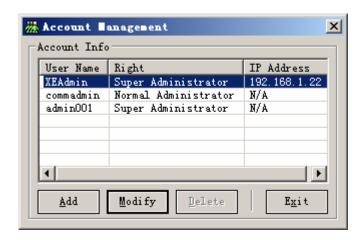


Figure 6-1 Log On Management

I. Add an account

Click <Add> in the [Log On Management] dialog box. In the appeared window, type the correct username and password and set the user level. Then click <Ok> to make your settings effective. A system automatically saves user information in five minutes, or you can click <Save on Device> to save the user information manually.

II. Modify an account

Select the user account to be modified in the [Account Info] list in the [Log On Management] dialog box and click <Modify>. The [Modify account] dialog box pops up, where you can edit user information such as the username, password and user right.

III. Delete an account

Select the user account to be deleted in the [Account Info] list in the [Log On Management] dialog box and click <Delete>.

Note:

- The right level of a logged-in account cannot be modified.
- An online account will be disconnected rightly after it is deleted.
- If you keep the password field null when modifying an account, the original password but not the null password will be adopted.
- The <OK> button does not work in case no change is made.

6.1.4 Changing Your Password

A user can change one's own password after logging in. Click [Change Password] in the device management window, and the [Change Password] dialog box appears, as shown in <u>Figure 6-2</u>. Type your current password and new password in the proper fields and then click <Ok> to make the new password effective.

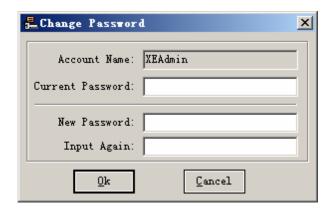


Figure 6-2 Change password

6.1.5 Managing Operation Rights of Normal Administrators

The super administrator can control the rights of normal administrators by:

- Permit/prohibit normal administrators' operations on a specific gateway or office group.
- Permit/prohibit normal administrators' right to add/delete a device.
- Permit/prohibit normal administrators' right to run major commands.

The above configurations take effect after a normal administrator logs in through GUI client, and thus the normal administrator can perform permitted operations.

I. Permit/prohibit normal administrators' operations on a specific gateway or office group

This is to control the right of all normal administrators to operate the specific gateway or office group under the LS.

Table 6-4 Permit/prohibit normal administrators' operations on a specific gateway or office group

Step	Configuratio n task	Description	Remarks
_	Permit/prohibi t normal administrators operations on a specific gateway	 Expand [System View/Location Server/Gateway] in the navigation tree, and select the gateway to be configured. In the configuration window, select a proper option from the [Access Limit] drop-down list, where: The permit option allows normal administrators to operate the specified gateway. The prohibit option forbids normal administrators from operating the specified gateway. Command: access (LS-GW view) 	Required
_	Permit/prohibi t normal administrators ' operations on a specific office group	 Expand [System View/Location Server/Office Group] in the navigation tree, and select the office group to be configured. In the configuration window, select a proper option from the [Access Limit] drop-down list, where: The permit option allows normal administrators to operate the specified office group. The prohibit option forbids normal administrators from operating the specified office group. Command: access (LS-OFFICEGROUP view) 	Required

II. Permit/prohibit normal administrators' right to add/delete a device

The super administrator can control normal administrators' right to add/delete gateways and/or office groups.

Table 6-5 Permit/prohibit normal administrators' right to add/delete a device

Step	Configuration task	Description	Remarks
	Prohibit normal administrators' right to add/delete a device	 Expand [System View/Location Server] in the navigation tree and select [List Access Control]. In the configuration window, click <add> and the [Add List Item] dialog box appears.</add> Select the desired option from the [List Name] drop-down list, where: The gateway option forbids normal administrators from adding/deleting a gateway. The office-group option forbids normal administrators from adding/deleting an office group. Then click <ok>.</ok> Command: access list (LS view) 	Required
	Permit normal administrators' right to add/delete a device	 Expand [System View/Location Server] in the navigation tree and select [List Access Control]. In the configuration window, select the desired option and then click <delete>.</delete> Selecting the gateway option and deleting it allows normal administrators to add/delete a gateway. Selecting the office-group option and deleting it allows normal administrators to add/delete an office group. Command: access list (LS view) 	Required

III. Permit/prohibit normal administrators' right to run major commands

The super administrator can control normal administrators' right to run:

- All the gateway configuration commands.
- All the office group configuration commands.
- All the commands used to configure IP addresses for gateways.

Table 6-6 Permit/prohibit normal administrators' right to run major commands

Step	Configuration task	Description	Remarks
	Prohibit normal administrators' right to run major commands	1) Expand [System View/Location Server] in the navigation tree and select [Command Access Control]. 2) In the configuration window, click <add> and the [Add List Item] dialog box appears. 3) Select the desired option from the [Prohibit] drop-down list, where: • The gateway option forbids normal administrators from running all gateway configuration commands. • The office-group option forbids normal administrators from running all office-related configuration commands. • The gw: ip-address option forbids normal administrators from running all commands used to configure IP addresses for gateways. Then click <ok>. Command: access command (LS view)</ok></add>	Required

Step	Configuration task	Description	Remarks
	Permit normal administrators' right to run major commands	 Expand [System View/Location Server] in the navigation tree. Select [Command Access Control]. In the configuration window. Select the desired option and then click <delete>.</delete> Selecting the gateway option and deleting it allows normal administrators to run all gateway configuration commands. Selecting the office-group option and deleting it allows normal administrators to run all office-related configuration commands. Selecting the gw: ip-address option and deleting it allows normal administrators to run all commands used to configure IP addresses for gateways. Command: access command (LS view) 	Required

6.1.6 Configuring Self-service

Configure the self-service as follows.

Table 6-7 Configure the self-service

Step	Configuration task	Description	Remarks
1	Enable/disable the self-service for a subscriber	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured] in the navigation tree, and Select [GUI Service] in the configuration window to enable the self-service for the subscriber. Clear this check box to disable the self-service for the subscriber. Command: 2.2.5 "Configuring Self-service" srv-switch gui (subscriber number view)	Required
2	Configure the self-service login password for a subscriber	Select [System View/Location Server/Gateway/the gateway where the subscriber to be configured is located/Subscriber/the subscriber to be configured] in the navigation tree. Set the password in the [GUI User Password] text box in the configuration window. Command: gui-pwd (subscriber number view)	Optional

6.2 Device Status Query

Click the [Device Status] tab in the device management window to display the CPU usage of tasks running on the XE IP PBX. Curves in different colors are used to display history data, as shown in <u>Figure 6-3</u>.

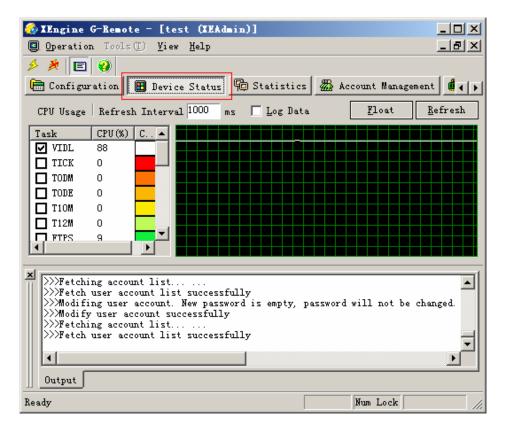


Figure 6-3 Device status window

The operation method is as follows:

- From the task list, select the tasks whose statistics information you want to display
 in curves. The corresponding CPU usage statistics appears on the right pane.
- Adjust the curve color of the selected tasks in the color list, so that each curve can be easily distinguished from others.
- Set the statistics refresh interval in the [Refresh Interval] field, ranging from 500 to 1000 in milliseconds. The default value is 1000 ms.
- After the GUI client sends a query on CPU usage to the XE IP PBX, if no response
 is received within a certain time, the GUI client regards the XE IP PBX busy and
 stops periodic query automatically. You can click <Refresh> to start the statistics
 again.
- The GUI client provides the log function. Select the [Log Data] check box, and the
 system will record your operation log in the Log directory under the installation
 path of the GUI client software. The extension of the log file is ".log". You can view
 the log in Notepad provided by Microsoft Windows.

Note:

- When the log function is disabled and the device status window is closed, the GUI
 client does not make CPU usage statistics. When the log function is enabled, the
 GUI client records the system status in a real-time way, and saves the record in the
 log file.
- The <Float> button on the device status window is used for floating/docking the statistics window. For details, refer to <u>Floating and docking</u>.

6.3 Telnet Login

Click the [Telnet] tab in the device management window to quickly invoke the Telnet function provided by Microsoft Windows, and thus you can easily configure network devices with command lines.

6.4 Saving the Configuration

After changing and confirming the XE IP PBX configuration through the GUI client, you can save the configuration. Click the [Save On Device] tab in the configuration management window, and click <Ok> in the dialog box that pops up to save the configuration, as shown in Figure 6-4.



Figure 6-4 Save configuration

A Note:

It may take a long time for the system to save the configuration. During this process, the system cannot respond to external requests. Therefore, try to minimize the times of saving configuration.

6.5 Backup/Recovery of the Configuration File

Through the GUI client, you can easily back up and recover the configuration of the XE IP PBX in a network. After logging into the XE IP PBX through the GUI client, click the [Backup/Recovery] tab on the configuration management window, and select the

Backup or Recovery option as needed. Save the backup file with extension ".xeb", as shown in <u>Figure 6-5</u>.

In the backup operation, you need to set the path to save the configuration file. A default configuration file name is generated automatically on the basis of the system date, and you can modify it if necessary.

In the recovery operation, you need to set the path of the configuration recovery file. After the successful recovery, the new configuration takes effect after the next reboot of the XE IP PBX.

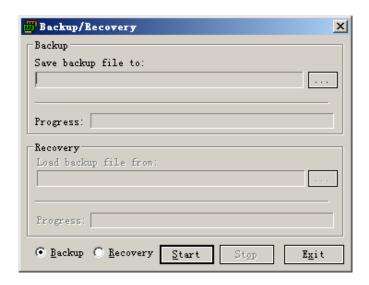


Figure 6-5 Backup/Recovery dialog box

6.6 Statistics Query

The GUI client allows users and super administrators to query the statistics of each module. Click the [Statistics] tab in the configuration management window, and select the module to be viewed from the system module list on the left pane, the GUI client displays the corresponding statistics in details on the right pane of the statistics window, as shown in Figure 6-6.

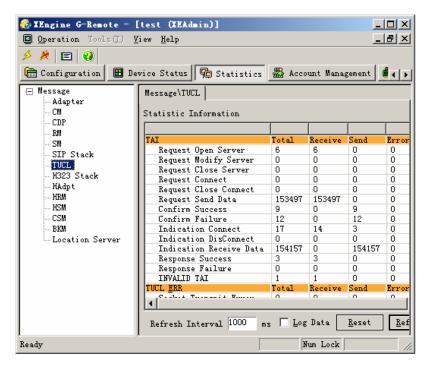


Figure 6-6 The statistics window

A Note:

If the log function is disabled, the GUI client makes the CPU usage statistics only when the device status window is opened. With the [Log Data] check box selected, the GUI client records the system status in a real-time way, and saves the record in the log file.

6.7 Multi-Device Management

6.7.1 Managing Multiple XE IP PBXs

The GUI client can manage multiple XE IP PBXs in the voice network at the same time. With the GUI client, you can log on to an XE IP PBX in the network. Select [Operation/Login Management] on the menu bar, select another XE IP PBX from the [Login Management] window, type the correct username and password, and click <Log in>. The GUI client holds the management interfaces of two XE IP PBXs at the same time. You can switch between the interfaces of the two XE IP PBXs by selecting the corresponding option on the [View] menu, as shown in Figure 6-7.

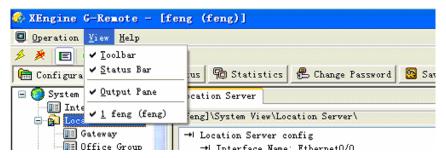


Figure 6-7 Manage multiple XE IP PBXs concurrently

6.7.2 Device Management Under the LS

In actual network environments, the XE IP PBX acting as an LS can be configured with multiple gateways and office group devices, and you can easily query and modify the configurations of these devices through the GUI client. Perform the following configuration on a gateway.

I. Gateway list

Select [Gateway] in the navigation tree, and all the gateways configured on the LS will be listed on the right pane of the configuration window, as shown in Figure 6-8. The information about the gateways is saved in a table. You can set a point in the list to start your query and the displayed items per page. Double-click a gateway, and the GUI client will list the configuration window of the gateway. Add an item for this gateway by choosing [System View/Location Server/Gateway] in the navigation tree.

In the gateway list, you can select a [Gateway ID] check box to add the corresponding item to [System View/Location Server/Gateway] in the navigation tree and display the registration status of this gateway. In this way, you can know in time the running status of important voice nodes in the network, and make timely troubleshooting.

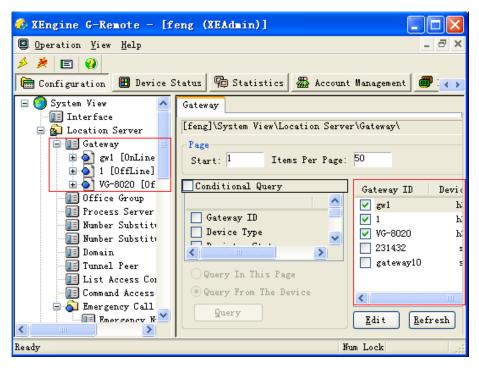


Figure 6-8 Gateway list

□ Note:

- The real-time statistics of network devices occupies a lot of system resources. Therefore, minimize the quantity of network devices listed in the navigation tree.
- Refer to the operation on gateways for operation on office devices.

II. Conditional query

The GUI client allows conditional query about gateways. Thus, you can quickly and precisely find the required voice gateway to be configured. The operation procedure is as follows:

- Select [System View/Location Server/Gateway] in the navigation tree, and select the [Conditional Query] check box on the left pane of the navigation tree, as shown in <u>Figure 6-9</u>.
- Select and set the correct query conditions in the list.
- Set the query range by selecting the Query in This Page option or Query from the
 Device option. The former allows you to query all gateways in the list of the current
 page on the right pane, and the latter allows you to query gateways under the
 entire LS.

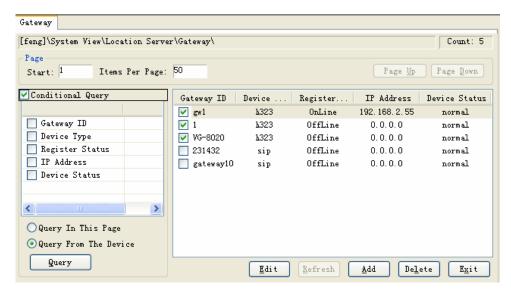


Figure 6-9 Conditional query on the current page

A Note:

- In the Query from the Device option, after you set the correct query conditions, click <Query> to display the gateways that satisfy the query conditions. If no gateway satisfies the condition, the list is null.
- Refer to the operation on gateways for operation on office devices.

III. Use of the Ctrl key

When selecting a tab in the navigation tree, you can press <Ctrl> at the same time to keep the currently-opened tab displayed, as shown in Figure 6-10.

In addition, you can set a tab to the fixed state by pressing the <Ctrl> key when selecting the tab. The tabs in the fixed state will not be closed each time a new tab is opened. The shortcut menu displayed by right-clicking also provides this function.

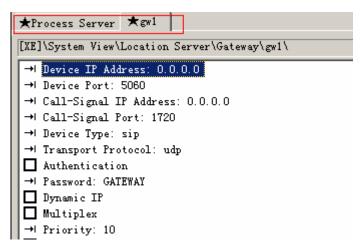


Figure 6-10 The use of the Ctrl key

IV. Floating and docking

During the configuration of the XE IP PBX through the GUI client, a configuration sub-window that appears as a tab on the configuration window is called a docking window, as shown in <u>Figure 6-11</u>; and a configuration sub-window that appears as a separate window is called a floating window, as shown in <u>Figure 6-12</u>.

To float a docking window, right-click the tab and select "Float Current Page", or directly double-click the tab. To dock a floating window, just double-click the title bar, and the window appears as Figure 6-12.

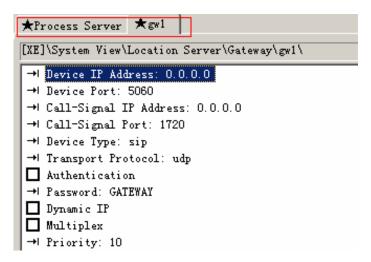


Figure 6-11 A docking window

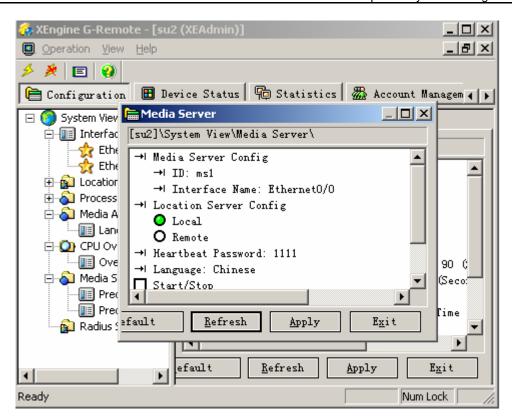


Figure 6-12 A floating window

V. Keyboard operation

- Use the arrow keys to move the focus in the navigation tree.
- Use the Space key to open the configuration window corresponding to the selected node in the navigation tree.
- Use the F2 key to move the focus to a node in the navigation tree.
- Use the Tab key in the navigation tree to move the focus to the configuration window.